

# ANNUAL INDEX

## for Volume 17, 1968 of

### COMPUTERS and AUTOMATION

- A**
- ACCEL, "Automated Circuit Card Etching Layout (ACCEL), MOD 1," 17/2 (Feb.), 48
- "ACM National Conference in August 1968 -- Call for Papers," by Marvin W. Ehlers, 17/1 (Jan.), 14
- "ACM 1968 National Conference and Exposition to be Held in Las Vegas," 17/7 (July), 55
- "ACM Professional Development Seminars," 17/2 (Feb.), 12
- "ACM SIGPLAN To Set Up Registry for Software Names," by Arnold D. Sobol, 17/1 (Jan.), 13
- "A-D Converter from EECQ Provides 250,000 Conversions/Second," 17/11 (Nov.), 55
- "ADAPSO Suit To Bar Banks from Selling EDP Service Is Rejected," 17/2 (Feb.), 51
- "ADAPSO's New By-Laws Give Full Membership to Software Firms," 17/11 (Nov.), 58
- AFIPS, "Newly-Established Position of Full-Time Executive Director Marks a Key-Point in AFIPS History," 17/11 (Nov.), 58
- "AFIPS Elects President," 17/7 (July), 48
- AIC Instruments, "New BCD Printer Available from AIC Instruments," 17/4 (Apr.), 65
- ALICS (Assembly Language by ICS), 17/9 (Sept.), 62
- ASCII code, "Full ASCII Code Now Available on Dura Converters," 17/4 (Apr.), 65
- ATEC, "New Proposals Filed by ATEC with Federal Communications Commission," 17/10 (Oct.), 67
- Ability, "Our Limited Ability to Understand and to Specify," 17/3 (March), 42
- "Abraham Lincoln," by Michael H. Craven, Annual Computer Art Contest, 17/8 (Aug.), 17
- "Access to a Computer for Every Computer Person -- Are We There?," by Edmund C. Berkeley, 17/12 (Dec.), 6
- "Access to Information and a Mailing List of All Computer People," by Edmund C. Berkeley, 17/1 (Jan.), 6
- "Access to Information and a Mailing List of All Computer People -- II," by Edmund C. Berkeley, 17/4 (Apr.), 7
- Accident data, "Safety Council Computer Analyzes Accident Data and Identifies Accident Patterns," 17/12 (Dec.), 57
- Accident patterns, "Safety Council Computer Analyzes Accident Data and Identifies Accident Patterns," 17/12 (Dec.), 57
- Accountants, "CPA (Computer Processing for Accountants)," 17/8 (Aug.), 58
- Accounting, "Fixed Asset Accounting," 17/10 (Oct.), 62
- Accounting machine, "Thousand-in-One Accounting Machine Introduced by NCR," 17/7 (July), 54
- Accounting service, "Computer Sciences Corp.'s Computer-Based Instant Accounting Service for Financial Institutions," 17/4 (Apr.), 60
- "Computerized Accounting Service for Mortgage Banks and Mortgage Loan Companies," 17/12 (Dec.), 59
- Accounting system, "Comprehensive Payroll Accounting System (OPACS)," 17/10 (Oct.), 62
- "Personal Trust Accounting System," 17/10 (Oct.), 63
- Accreditation, "CDC Computer Schools Receive Accreditation," 17/10 (Oct.), 59
- "Acoustic-Coupled Data Set From Digitronics Corp.," 17/5 (May), 63
- Acquaintanceships, "Rapid Efficient Starting of Acquaintanceships in the Computer Field," by Roger Barnard, 17/7 (July), 16
- "Acquisition System Gathers Analog/Digital Data in the Field or on the Bench," 17/11 (Nov.), 52
- ACROSS THE EDITOR'S DESK:** 17/1 (Jan.), 51; 17/2 (Feb.), 41; 17/3 (March), 48; 17/4 (Apr.), 56; 17/5 (May), 53; 17/7 (July), 44; 17/8 (Aug.), 52; 17/9 (Sept.), 54; 17/10 (Oct.), 56; 17/11 (Nov.), 45; 17/12 (Dec.), 56
- "Adage Announces a New Data Distributor for Digital/Analog Systems," 17/4 (Apr.), 66
- "Adage Graphics Terminal (AGT)" (in Annual Pictorial Report), 17/12 (Dec.), 41
- Administrative data processing, "International Group for Administrative Data Processing Is Formed," 17/1 (Jan.), 13
- "Africans Learn Modern Computer Skills," 17/7 (July), 49
- Air pollution, "Allegheny Health Department Monitoring Air Pollution With On-Line System," 17/12 (Dec.), 58
- Air spray, "Portable Air Spray for Delicate Dusting," 17/11 (Nov.), 56
- Airline reservation, "Common Airlines Reservations System from Control Data," 17/8 (Aug.), 60
- Airport, "First Supersonic Airport Gets First Driverless, Trackless Passenger Train," 17/1 (Jan.), 61
- "Computer is Helping to Change the Shape of Airports Around the World," 17/7 (July), 46
- "Alaskan Scientists Apply Computer in Study of Northern Lights," 17/9 (Sept.), 55
- "Alaskan Surveyors Use Computer to Explore for Oil," 17/8 (Aug.), 54
- "All Bank Export Credits Should Be Exempted from Present Collings," by Richard Bliss, 17/4 (Apr.), 11
- "All-Electronic Typesetter Sets Type for Full Page or Microfilm Storage in Seconds," 17/4 (Apr.), 68
- "Allegheny Health Department Monitoring Air Pollution With On-Line System," 17/12 (Dec.), 58
- "ALTAK," 17/7 (July), 53
- "Almost a Million Components per Square Inch Using New Bell Techniques," 17/7 (July), 55
- Alphanumeric, "CRT Display Terminal with Alphanumeric and Graphic Capabilities," 17/11 (Nov.), 55
- "Although Computers can Do Only What They are Told to Do, It Is Not Possible Practically to Foresee All of the Consequences," by Richard W. Hamming, 17/8 (Aug.), 32
- American Business Systems, "Preliminary Negotiations are Completed for Acquisition of American Business Systems by Control Data," 17/9 (Sept.), 58
- "American Dominance of World Computer Market," by Ted Schoeters, 17/7 (July), 32
- "American Society for Information Is Created," by Dr. Bernard M. Fry, 17/1 (Jan.), 13
- Amphenol Corporation, "Bunker-Ramo Corporation, Amphenol Corporation Combine Businesses," 17/3 (March), 52
- "Analog Computer Enhances Resolution of Continuous Curves Produced by Instruments," 17/11 (Nov.), 49
- "Analog Computer Simulates Fruit Trees to Determine Reactions to Varying Forces," 17/1 (Jan.), 51
- Analogue/digital data, "Acquisition System Gathers Analog/Digital Data in the Field or on the Bench," 17/11 (Nov.), 52
- "Analog-to-Digital Converter, DATRAC IV, from EPSCO, Inc.," 17/2 (Feb.), 49
- Analog and hybrid computers, "Characteristics of General Purpose Analog and Hybrid Computers," 17/6 (June), 136
- Analog/hybrid computing system, "100-V Analog/Hybrid Computing System from EAI," 17/11 (Nov.), 50
- Analysis, "Radiation Therapy Analysis Speeded by Computer," 17/11 (Nov.), 46
- Anderson, L. David, "Lindy Star," Annual Computer Art Contest, 17/8 (Aug.), 25
- "Annual Index for Volume 16, 1967 of Computers and Automation," 17/1 (Jan.), 29
- "ANNUAL PICTORIAL REPORT," 17/12 (Dec.), 30
- Antisense, Lawrence E., "Computer Graphics," 17/4 (Apr.), 9
- "Any Protests and Objections to Computers Should be Directed at the Men Who Use Them, Not at the Computers," by James E. Harrison, 17/1 (Jan.), 10
- "Apollo Biomedical Data to be Processed in Real Time," 17/10 (Oct.), 57
- APPLICATIONS: 17/1 (Jan.), 51; 17/2 (Feb.), 41; 17/3 (March), 49; 17/4 (Apr.), 57; 17/5 (May), 54; 17/7 (July), 45; 17/8 (Aug.), 53; 17/9 (Sept.), 55; 17/10 (Oct.), 57; 17/11 (Nov.), 46; 17/12 (Dec.), 57
- Applications, "Over 1400 Applications of Electronic Computing and Data Processing Equipment," 17/6 (June), 124
- "Applications and Nonapplications of Computers," by Edmund C. Berkeley, 17/6 (June), 6
- Applied Data Research, "First Patent for Software Sorting System Granted to Applied Data Research," 17/8 (Aug.), 54
- "Applied Logic Corporation Announces New Computer Software Royalty Plan," 17/7 (July), 48
- Applied Magnetics, "Thirteen Track Flying Head for Disc Memories from Applied Magnetic," 17/8 (Aug.), 58
- "ARBITRAGE I," 17/12 (Dec.), 60
- Arch, "Computer Designed Arch Has Great Potential in the Building Field," 17/5 (May), 54
- "Are Computer People the Tools of Their Tools?," by James R. Gigone, 17/12 (Dec.), 12
- Argentine Business Machine Company, "NCR Acquires Argentine Business Machine Company," 17/8 (Aug.), 55
- "ARGUS," 17/5 (May), 62
- "Arizona 'Prospector' Uses IBM Computer to Search Globe for Precious Metals," 17/8 (Aug.), 53
- "Arky International Announces Desktop Teaching Machine," 17/2 (Feb.), 45
- Art: "Computer Art," from G. P. O'Shaughnessy, 17/10 (Oct.), 4
- "Computer Art Reprints," from H. G. Martin, 17/11 (Nov.), 4
- Art competition, "California Computer Products Sponsors Art Competition," 17/10 (Oct.), 14
- Art contest: "The Sixth Annual Computer Art Contest of Computers and Automation," by Sherry Langdale, 17/8 (Aug.), 8
- "Sixth Annual Computer Art Contest -- August, 1968," 17/5 (May), 17
- "Art Reproduction," from H. A. Mondelsohn, 17/1 (Jan.), 8
- Artificial intelligence, "International Joint Conference on Artificial Intelligence -- Call for Papers," by Dr. Donald E. Walker, 17/10 (Oct.), 13
- Artists, "Computer Artists in This Issue," 17/8 (Aug.), 27
- Artwork, "Precision Artwork Now Is Automated by Buckbee-Mears," 17/5 (May), 54
- AS WE GO TO PRESS: 17/11 (Nov.), 58; 17/12 (Dec.), 63
- "Aspects of Human Decision-Making," by Dr. D. E. Broadbent, 17/5 (May), 30
- Assembly Language, "ALICS (Assembly Language by ICS)," 17/9 (Sept.), 62
- Association for Computing Machinery: "Two Full-Day Seminars have been Added to the Association for Computing Machinery (ACM) Professional Development Program Following FJCC," 17/11 (Nov.), 58
- "Special Interest Committee for Social Science Computing of the Association for Computing Machinery is Proposed," by George Sadowsky, 17/8 (Aug.), 28
- "Association for Computing Machinery Form Special Interest Group on Business Data Processing (SIGBDP)," from Paul D. Oyer, 17/9 (Sept.), 12
- "Association of Independent Software Companies Formed," 17/7 (July), 14
- Associations, "Roster of Computer Associations," 17/6 (June), 148
- Astronauts, "IBM Computer Helps Century-Old Machine Turn Out Shields for Astronauts," 17/2 (Feb.), 43
- Atlantic Software, "COBOL Reference Manual Available from Atlantic Software," 17/9 (Sept.), 65
- Audev K-68, "Audio Devices New Audev K-68 Magnetic Tape," 17/2 (Feb.), 51
- Audio Devices, "Minireels of Magnetic Computer Tape Available from Audio Devices," 17/2 (Feb.), 51
- "Audio Devices New Audev K-68 Magnetic Tape," 17/2 (Feb.), 51
- Auerbach, Isaac L., "1968 Prediction for the Computer Industry," 17/2 (Feb.), 10
- Australia: -- see "Report from Australia"
- see "World Report -- Australia"
- "Authors' Addresses Including Mail Codes," 17/2 (Feb.), 13
- "Autodiagrammer," 17/1 (Jan.), 56; 17/2 (Feb.), 47
- "Autofax Unit Offers Economical Telephone Data Transfer," 17/3 (March), 58
- "AUTOFORCE SYSTEM," 17/5 (May), 62
- "AUTO-LEX," 17/11 (Nov.), 53
- Automated business machines, "Master Translator Permits Automated Business Machines to 'Talk' Together," 17/9 (Sept.), 63
- "Automated Circuit Card Etching Layout (ACCEL), MOD 1," 17/2 (Feb.), 48
- Automated drafter, "Charles Bruning Company to Market Automated Drafter for Mergenthaler Linotype Co.," 17/1 (Jan.), 54
- "Automated Retrieval of Legal Information: State of the Art," by Stephen E. Furth, 17/12 (Dec.), 25
- Automated record handling, "NCR Seminar on Automated Record Handling for Catholic Schools," 17/8 (Aug.), 56
- "Automated Teaching in Biology Saves Money at Fraser University," 17/1 (Jan.), 12
- Automatic computers, "The Flood of Automatic Computers," by Neil MacDonald, 17/12 (Dec.), 52
- Automatic control, "Award to be Given for Outstanding Contribution in the Field of Automatic Control," by Donald P. Eckman, 17/2 (Feb.), 13
- Automatic Data Equalized Modern, "Automatics Division of North American Rockwell Develops ADEM (Automatic Data Equalized Modern)," 17/3 (March), 59
- "Automatic Data Processing Must Deal with Social Problems," Dr. H. R. J. Grosch, 17/7 (July), 15
- "Automating Better Education," from Enoch Hugs, 17/11 (Nov.), 4
- AUTOMATION: 17/1 (Jan.), 61; 17/4 (Apr.), 67; 17/11 (Nov.), 57
- Automation and man, "French-USSR Symposium on Automation and man," 17/5 (May), 15
- "Automation and the Proposed Minimum Annual Income: Subject for Debate," from Martin Kaufman and the Editor, 17/2 (Feb.), 11
- "Automatics Division of North American Rockwell Develops ADEM (Automatic Data Equalized Modern)," 17/3 (March), 59
- "AUTOSCAN/LOG," 17/10 (Oct.), 62
- Avizienis, Dr., "A Digital Computer with Automatic Self-Repair and Majority Vote," 17/5 (May), 13
- "Award to be Given for Outstanding Contribution in the Field of Automatic Control," by Donald P. Eckman, 17/2 (Feb.), 13

# ANNUAL INDEX

## for Volume 17, 1968 of

### COMPUTERS and AUTOMATION

- A**
- ACCEL, "Automated Circuit Card Etching Layout (ACCEL), MOD 1," 17/2 (Feb.), 48
- "ACM National Conference in August 1968 -- Call for Papers," by Marvin W. Ehlers, 17/1 (Jan.), 14
- "ACM 1968 National Conference and Exposition to be Held in Las Vegas," 17/7 (July), 55
- "ACM Professional Development Seminars," 17/2 (Feb.), 12
- "ACM SIGPLAN To Set Up Registry for Software Names," by Arnold D. Sobol, 17/1 (Jan.), 13
- "A-D Converter from EEC0 Provides 250,000 Conversions/Second," 17/11 (Nov.), 55
- "ADAPSO Suit To Bar Banks from Selling EDP Service Is Rejected," 17/2 (Feb.), 51
- "ADAPSO's New By-Laws Give Full Membership to Software Firms," 17/11 (Nov.), 59
- AFIPS, "Newly-Established Position of Full-Time Executive Director Marks a Key-Point in AFIPS History," 17/11 (Nov.), 59
- "AFIPS Elects President," 17/7 (July), 48
- AIC Instruments, "New BCD Printer Available from AIC Instruments," 17/4 (Apr.), 65
- ALICS (Assembly Language by ICS), 17/9 (Sept.), 62
- ASCII code, "Full ASCII Code Now Available on Dura Converters," 17/4 (Apr.), 65
- ATEC, "New Proposals Filed by ATEC with Federal Communications Commission," 17/10 (Oct.), 67
- Ability, "Our Limited Ability to Understand and to Specify," 17/3 (March), 42
- "Abraham Lincoln," by Michael H. Craven, Annual Computer Art Contest, 17/8 (Aug.), 17
- "Access to a Computer for Every Computer Person -- Are We There?," by Edmund C. Berkeley, 17/12 (Dec.), 6
- "Access to Information and a Mailing List of All Computer People," by Edmund C. Berkeley, 17/1 (Jan.), 6
- "Access to Information and a Mailing List of All Computer People -- II," by Edmund C. Berkeley, 17/4 (Apr.), 7
- Accident data, "Safety Council Computer Analyzes Accident Data and Identifies Accident Patterns," 17/12 (Dec.), 57
- Accident patterns, "Safety Council Computer Analyzes Accident Data and Identifies Accident Patterns," 17/12 (Dec.), 57
- Accountants, "CPA (Computer Processing for Accountants)," 17/8 (Aug.), 58
- Accounting, "Fixed Asset Accounting," 17/10 (Oct.), 62
- Accounting machine, "Thousand-in-One Accounting Machine Introduced by NCR," 17/7 (July), 54
- Accounting service, "Computer Sciences Corp.'s Computer-Based Instant Accounting Service for Financial Institutions," 17/4 (Apr.), 60
- "Computerized Accounting Service for Mortgage Banks and Mortgage Loan Companies," 17/12 (Dec.), 59
- Accounting system, "Comprehensive Payroll Accounting System (OPACS)," 17/10 (Oct.), 62
- "Personal Trust Accounting System," 17/10 (Oct.), 63
- Accreditation, "CDC Computer Schools Receive Accreditation," 17/10 (Oct.), 59
- "Acoustic-Coupled Data Set From Digitronics Corp.," 17/5 (May), 63
- Acquaintanceships, "Rapid Efficient Starting of Acquaintanceships in the Computer Field," by Roger Barnard, 17/7 (July), 16
- "Acquisition System Gathers Analog/Digital Data in the Field or on the Bench," 17/11 (Nov.), 52
- ACROSS THE EDITOR'S DESK:** 17/1 (Jan.), 51; 17/2 (Feb.), 41; 17/3 (March), 48; 17/4 (Apr.), 56; 17/5 (May), 53; 17/7 (July), 44; 17/8 (Aug.), 52; 17/9 (Sept.), 54; 17/10 (Oct.), 56; 17/11 (Nov.), 45; 17/12 (Dec.), 56
- "Adage Announces a New Data Distributor for Digital/Analog Systems," 17/4 (Apr.), 66
- "Adage Graphics Terminal (AGT)" (in Annual Pictorial Report), 17/12 (Dec.), 41
- Administrative data processing, "International Group for Administrative Data Processing Is Formed," 17/1 (Jan.), 13
- "Africans Learn Modern Computer Skills," 17/7 (July), 49
- Air pollution, "Allegheny Health Department Monitoring Air Pollution With On-Line System," 17/12 (Dec.), 58
- Air spray, "Portable Air Spray for Delicate Dusting," 17/11 (Nov.), 56
- Airline reservation, "Common Airlines Reservations System from Control Data," 17/8 (Aug.), 60
- Airport, "First Supersonic Airport Gets First Driverless, Trackless Passenger Train," 17/1 (Jan.), 61
- "Computer is Helping to Change the Shape of Airports Around the World," 17/7 (July), 46
- "Alaskan Scientists Apply Computer in Study of Northern Lights," 17/9 (Sept.), 55
- "Alaskan Surveyors Use Computer to Explore for Oil," 17/8 (Aug.), 54
- "All Bank Export Credits Should Be Exempted from Present Collings," by Richard Bliss, 17/4 (Apr.), 11
- "All-Electronic Typesetter Sets Type for Full Page or Microfilm Storage in Seconds," 17/4 (Apr.), 68
- "Allegheny Health Department Monitoring Air Pollution With On-Line System," 17/12 (Dec.), 58
- ALTAK, 17/7 (July), 53
- "Almost a Million Components per Square Inch Using New Bell Techniques," 17/7 (July), 55
- Alphanumeric, "CRT Display Terminal with Alphanumeric and Graphic Capabilities," 17/11 (Nov.), 55
- "Although Computers can Do Only What They are Told to Do, It Is Not Possible Practically to Foresee All of the Consequences," by Richard W. Hamming, 17/8 (Aug.), 32
- American Business Systems, "Preliminary Negotiations are Completed for Acquisition of American Business Systems by Control Data," 17/9 (Sept.), 58
- "American Dominance of World Computer Market," by Ted Schoeters, 17/7 (July), 32
- "American Society for Information Is Created," by Dr. Bernard M. Fry, 17/1 (Jan.), 13
- Amphenol Corporation, "Bunker-Ramo Corporation, Amphenol Corporation Combine Businesses," 17/3 (March), 52
- "Analog Computer Enhances Resolution of Continuous Curves Produced by Instruments," 17/11 (Nov.), 49
- "Analog Computer Simulates Fruit Trees to Determine Reactions to Varying Forces," 17/1 (Jan.), 51
- Analogue/digital data, "Acquisition System Gathers Analog/Digital Data in the Field or on the Bench," 17/11 (Nov.), 52
- "Analog-to-Digital Converter, DATRAC IV, from EPSCO, Inc.," 17/2 (Feb.), 49
- Analog and hybrid computers, "Characteristics of General Purpose Analog and Hybrid Computers," 17/6 (June), 136
- Analog/hybrid computing system, "100-V Analog/Hybrid Computing System from EAI," 17/11 (Nov.), 50
- Analysis, "Radiation Therapy Analysis Speeded by Computer," 17/11 (Nov.), 46
- Anderson, L. David, "Lindy Star," Annual Computer Art Contest, 17/8 (Aug.), 25
- "Annual Index for Volume 16, 1967 of Computers and Automation," 17/1 (Jan.), 29
- "ANNUAL PICTORIAL REPORT," 17/12 (Dec.), 30
- Antisense, Lawrence E., "Computer Graphics," 17/4 (Apr.), 9
- "Any Protests and Objections to Computers Should be Directed at the Men Who Use Them, Not at the Computers," by James E. Harrison, 17/1 (Jan.), 10
- "Apollo Biomedical Data to be Processed in Real Time," 17/10 (Oct.), 57
- APPLICATIONS: 17/1 (Jan.), 51; 17/2 (Feb.), 41; 17/3 (March), 49; 17/4 (Apr.), 57; 17/5 (May), 54; 17/7 (July), 45; 17/8 (Aug.), 53; 17/9 (Sept.), 55; 17/10 (Oct.), 57; 17/11 (Nov.), 46; 17/12 (Dec.), 57
- Applications, "Over 1400 Applications of Electronic Computing and Data Processing Equipment," 17/6 (June), 124
- "Applications and Nonapplications of Computers," by Edmund C. Berkeley, 17/6 (June), 6
- Applied Data Research, "First Patent for Software Sorting System Granted to Applied Data Research," 17/8 (Aug.), 54
- "Applied Logic Corporation Announces New Computer Software Royalty Plan," 17/7 (July), 48
- Applied Magnetics, "Thirteen Track Flying Head for Disc Memories from Applied Magnetic," 17/8 (Aug.), 58
- "ARBITRAGE I," 17/12 (Dec.), 60
- Arch, "Computer Designed Arch Has Great Potential in the Building Field," 17/5 (May), 54
- "Are Computer People the Tools of Their Tools?," by James R. Gigone, 17/12 (Dec.), 12
- Argentine Business Machine Company, "NCR Acquires Argentine Business Machine Company," 17/8 (Aug.), 55
- "ARGUS," 17/5 (May), 62
- "Arizona 'Prospector' Uses IBM Computer to Search Globe for Precious Metals," 17/8 (Aug.), 53
- "Arky International Announces Desktop Teaching Machine," 17/2 (Feb.), 45
- Art: "Computer Art," from G. P. O'Shaughnessy, 17/10 (Oct.), 4
- "Computer Art Reprints," from H. G. Martin, 17/11 (Nov.), 4
- Art competition, "California Computer Products Sponsors Art Competition," 17/10 (Oct.), 14
- Art contest: "The Sixth Annual Computer Art Contest of Computers and Automation," by Sherry Langdale, 17/8 (Aug.), 8
- "Sixth Annual Computer Art Contest -- August, 1968," 17/5 (May), 17
- "Art Reproduction," from H. A. Mondelsohn, 17/1 (Jan.), 8
- Artificial intelligence, "International Joint Conference on Artificial Intelligence -- Call for Papers," by Dr. Donald E. Walker, 17/10 (Oct.), 13
- Artists, "Computer Artists in This Issue," 17/8 (Aug.), 27
- Artwork, "Precision Artwork Now Is Automated by Buckbee-Mears," 17/5 (May), 54
- AS WE GO TO PRESS: 17/11 (Nov.), 58; 17/12 (Dec.), 63
- "Aspects of Human Decision-Making," by Dr. D. E. Broadbent, 17/5 (May), 30
- Assembly Language, "ALICS (Assembly Language by ICS)," 17/9 (Sept.), 62
- Association for Computing Machinery: "Two Full-Day Seminars have been Added to the Association for Computing Machinery (ACM) Professional Development Program Following FJCC," 17/11 (Nov.), 58
- "Special Interest Committee for Social Science Computing of the Association for Computing Machinery is Proposed," by George Sadowsky, 17/8 (Aug.), 28
- "Association for Computing Machinery Form Special Interest Group on Business Data Processing (SIGBDP)," from Paul D. Oyer, 17/9 (Sept.), 12
- "Association of Independent Software Companies Formed," 17/7 (July), 14
- Associations, "Roster of Computer Associations," 17/6 (June), 148
- Astronauts, "IBM Computer Helps Century-Old Machine Turn Out Shields for Astronauts," 17/2 (Feb.), 43
- Atlantic Software, "COBOL Reference Manual Available from Atlantic Software," 17/9 (Sept.), 65
- Audev K-68, "Audio Devices New Audev K-68 Magnetic Tape," 17/2 (Feb.), 51
- Audio Devices, "Minireels of Magnetic Computer Tape Available from Audio Devices," 17/2 (Feb.), 51
- "Audio Devices New Audev K-68 Magnetic Tape," 17/2 (Feb.), 51
- Auerbach, Isaac L., "1968 Prediction for the Computer Industry," 17/2 (Feb.), 10
- Australia: -- see "Report from Australia"
- see "World Report -- Australia"
- "Authors' Addresses Including Mail Codes," 17/2 (Feb.), 13
- "Autodiagrammer," 17/1 (Jan.), 56; 17/2 (Feb.), 47
- "Autofax Unit Offers Economical Telephone Data Transfer," 17/3 (March), 58
- "AUTOFORCE SYSTEM," 17/5 (May), 62
- "AUTO-LEX," 17/11 (Nov.), 53
- Automated business machines, "Master Translator Permits Automated Business Machines to 'Talk' Together," 17/9 (Sept.), 63
- "Automated Circuit Card Etching Layout (ACCEL), MOD 1," 17/2 (Feb.), 48
- Automated drafter, "Charles Bruning Company to Market Automated Drafter for Mergenthaler Linotype Co.," 17/1 (Jan.), 54
- "Automated Retrieval of Legal Information: State of the Art," by Stephen E. Furth, 17/12 (Dec.), 25
- Automated record handling, "NCR Seminar on Automated Record Handling for Catholic Schools," 17/8 (Aug.), 56
- "Automated Teaching in Biology Saves Money at Fraser University," 17/1 (Jan.), 12
- Automatic computers, "The Flood of Automatic Computers," by Neil MacDonald, 17/12 (Dec.), 52
- Automatic control, "Award to be Given for Outstanding Contribution in the Field of Automatic Control," by Donald P. Eckman, 17/2 (Feb.), 13
- Automatic Data Equalized Modern, "Automatics Division of North American Rockwell Develops ADEM (Automatic Data Equalized Modern)," 17/3 (March), 59
- "Automatic Data Processing Must Deal with Social Problems," Dr. H. R. J. Grosch, 17/7 (July), 15
- "Automating Better Education," from Enoch Hugs, 17/11 (Nov.), 4
- AUTOMATION: 17/1 (Jan.), 61; 17/4 (Apr.), 67; 17/11 (Nov.), 57
- Automation and man, "French-USSR Symposium on Automation and man," 17/5 (May), 15
- "Automation and the Proposed Minimum Annual Income: Subject for Debate," from Martin Kaufman and the Editor, 17/2 (Feb.), 11
- "Automatics Division of North American Rockwell Develops ADEM (Automatic Data Equalized Modern)," 17/3 (March), 59
- "AUTOSCAN/LOC," 17/10 (Oct.), 62
- Avizienis, Dr., "A Digital Computer with Automatic Self-Repair and Majority Vote," 17/5 (May), 13
- "Award to be Given for Outstanding Contribution in the Field of Automatic Control," by Donald P. Eckman, 17/2 (Feb.), 13

# Annual Index

- BI-TRAN SIX computer, "Fabri-Tek Introduces New Control Key-board Console for BI-TRAN SIX Computer," 17/10 (Oct.), 61
- "Bankist Auerbach N.Y. Computer Consulting Firm, Formed in Europe," 17/4 (Apr.), 59
- Balkind, Alvin, "Computer Art Exhibition," 17/4 (Apr.), 9
- Ball, Vaughn C., "The Impact of Data-Processing Technology on the Legal Profession," 17/4 (Apr.), 43
- "Law and Computer Technology," 17/7 (July), 4
- "Law and Computer Technology," 17/8 (Aug.), 4
- "The Bank of Tomorrow: Today," by Dr. James A. O'Brien, 17/5 (May), 26
- Bankers, "Document Reader-Sorter Especially for Bankers," 17/10 (Oct.), 64
- Banking system, "IBM Introduces Low-Cost Banking System," 17/5 (May), 61
- Banking's new product, "Data Processing Services: Banking's New Product," by Dr. James A. O'Brien, 17/10 (Oct.), 40
- Barden, William A., "Proof Goofs," 17/11 (Nov.), 4
- Barnard, Roger, "Rapid Efficient Starting of Acquaintanceships in the Computer Field," 17/7 (July), 16
- Bartender, "Cleveland Jazz Spot Using Computerized Bartender," 17/11 (Nov.), 48
- "BATCH," 17/3 (March), 56
- "Battles by Computer -- Final Results," by Wendell Weatherford, 17/2 (Feb.), 4
- Bauriedel, William, "Social Implications Group," 17/1 (Jan.), 8
- "Beckman 3700 Series Data Acquisition Recorders," 17/8 (Aug.), 61
- Belgium, "Centralized Control of Belgium's Natural Gas Network," 17/5 (May), 54
- Bell Laboratories, "Computerized Instant Library Loan System Designed at Bell Laboratories," 17/3 (March), 49
- Bell techniques, "Almost a Million Components per Square Inch Using New Bell Techniques," 17/7 (July), 55
- Berkley, Edmund C., "Access to a Computer for Every Computer Person -- Are We There?" 17/12 (Dec.), 6
- "Access to Information and a Mailing List of All Computer People," 17/1 (Jan.), 6
- "Access to Information and a Mailing List of All Computer People -- II," 17/4 (Apr.), 7
- "Applications and Nonapplications of Computers," 17/6 (June), 6
- "The Catching of Errors by Inspection -- and Particularly Proofreading Errors," 17/9 (Sept.), 6
- "Computer Directory and Buyers' Guide -- Comments," 17/9 (Sept.), 12
- "Computer Professionals Show Little Awareness of Social Responsibility," 17/9 (Sept.), 11
- "Computers and Moral Questions," 17/3 (March), 7
- "Good Communication Between People, Between Machines, and Between People and Machines -- and Obfuscation," 17/7 (July), 10
- "How to Obfuscate, and How Not To," 17/5 (May), 7
- "How to Spoil One's Mind -- As Well as One's Computer," 17/8 (Aug.), 6
- "How to Spoil One's Mind -- As Well as One's Computer" -- Some Comments, 17/12 (Dec.), 6
- "International Federation for Information Processing Congress -- Edinburgh, Scotland, August 4-10, 1968 -- Some Highlights," 17/9 (Sept.), 10
- "Operation Bootstrap in the Computer Field," 17/11 (Nov.), 6
- "The Problem of Keeping Up With One's Reading," 17/2 (Feb.), 6
- "Proof Goofs and Proofreading Errors -- Comments," 17/11 (Nov.), 12
- "Remote Batch Processing and Other Good New Ideas in the Computer Field," 17/10 (Oct.), 6
- "\$70 Million Firm Seeks Service Bureau in Northeast," 17/7 (July), 21
- "Verification of Computer Directory Information," 17/8 (Aug.), 30
- "Who's Who in the Computer Field -- and Who are the Distinguished Computer People?" 17/7 (July), 6
- Bernstein, Morton I., and Thomas G. Williams, "An Interactive Programming System for the Casual User," 17/2 (Feb.), 26
- "Better Insight," from Salvatore M. Zulla, 17/1 (Jan.), 8
- Bigelow, Robert P., "Good Communication Between People, Between Machines, and Between People and Machines -- and Obfuscation," 17/7 (July), 10
- Bill of rights, "Computer Bill of Rights Proposed," from Den Van Tassel, 17/9 (Sept.), 11
- "Bin-and-Module System" (in Annual Pictorial Report), 17/12 (Dec.), 48
- Binary operations, "Feedback Ltd.'s Low-Cost Computer Training Course Side Range of Binary Operations," 17/10 (Oct.), 61
- Biology, "Automated Teaching in Biology Saves Money at Fraser University," 17/1 (Jan.), 12
- "Shoot to Teach Biology Using L.C.T. Computer," 17/9 (Sept.), 58
- Biomedical data, "Apollo Biomedical Data to be Processed in Real Time," 17/10 (Oct.), 57
- Biomedical engineering, "University of Utah Will Establish an Institute for Biomedical Engineering," 17/3 (March), 54
- Bland, Frederick A., -- see "Report from Australia"
- "BLINC," New Automatic Device for Inspecting PC-Board Assemblies," 17/5 (May), 65
- Bliss, Richard, "All Bank Export Credits Should be Exempted from Present Ceilings," 17/4 (Apr.), 11
- Blondin, George, "Problem 683: What's WHAT?", 17/3 (March), 43
- "Blood Test Results are Faster, More Accurate, Using Computer," 17/9 (Sept.), 57
- "Blue Cross of Central Ohio Creates Computer Center Service for Hospitals," 17/5 (May), 59
- Blumhail, Edwin L., "IEEE Technical Committee on Computer Peripheral Equipment Seeks Volunteers," 17/11 (Nov.), 13
- Boehm, George A. W., "Gypsy, Model VI, Claude Shannon, Nimwit and the Mouse," 17/1 (Jan.), 11
- Boeing, Brooke W., "Reprints for Authors," 17/3 (March), 8
- "The 'System Generator': The Ultimate in Software," 17/3 (March), 36
- Bonn, T. H., "1969 Spring Joint Computer Conference -- Call for Papers," 17/7 (July), 17
- "Book Size" Oscilloscope by Measurement Control Devices, Inc., 17/11 (Nov.), 56
- BOOK REVIEWS by Neil Macdonald: 17/10 (Oct.), 73; 17/11 (Nov.), 64
- BOOK REVIEWS AND NOTICES by Neil Macdonald: 17/8 (Aug.), 70; 17/9 (Sept.), 71
- BOOKS AND OTHER PUBLICATIONS by Neil Macdonald: 17/2 (Feb.), 57; 17/4 (Apr.), 73; 17/5 (May), 73
- Bookshelf-type core memory system, "Phillips Offers Inexpensive Bookshelf-Type Core Memory System," 17/9 (Sept.), 61
- Booth, Andrew D., "Mechanical Translation," 17/4 (Apr.), 54
- Bootstrap, "Operation Bootstrap in the Computer Field," by Edmund C. Berkeley, 17/11 (Nov.), 6
- "Boston Latin -- Country's Oldest School -- Uses New Computer," 17/12 (Dec.), 59
- "Both 'Encyclopedic, Tutorial' and 'Information-Dispensing' Information Retrieval Systems Should Receive Emphasis," by Manfred Kochen 17/11 (Nov.), 20
- Bowen, John A., "Numbles," 17/12 (Dec.), 4
- Bowlard, D. L., "Study in the U.S.," 17/2 (Feb.), 6
- "Bowlers' Scores in Six States to be Compiled by Computer," 17/10 (Oct.), 66
- Boyd, Grant N., "An Inter-City, Multi-Access, Time-Sharing Computer System," 17/2 (Feb.), 21
- Brandon, Dick H., "There is a Crying Need for Improvement in the Technique of Education," 17/1 (Jan.), 40
- "Brandon Systems Institute Schedules Four New Data Processing Courses," 17/3 (March), 53
- "Breakthrough on Technical Symbols for IBM Selectrics," 17/5 (May), 64
- Broadbent, Dr. D. E., "Aspects of Human Decision-Making," 17/5 (May), 30
- Broadcasting, "TV, Radio Production, and Broadcasting Controlled by Computer in New Tokyo System," 17/11 (Nov.), 47
- Brown, David W., "Computers in the Factory (Part I)," 17/7 (July), 38
- "Computers in the Factory (Part 2)," 17/8 (Aug.), 50
- Buckbee-Mears, "Precision Artwork Now Is Automated by Buckbee-Mears," 17/5 (May), 54
- Buildings, "Environmental Control of Buildings Through Use of Computers," 17/11 (Nov.), 47
- BULLETIN BOARD: 17/5 (May), 11; "Coming Issues, Recent Articles in CEA, Services for our Readers," 17/7 (July), 8
- "Bunker-Ramo Corporation, Amphel Corporation Combine Businesses," 17/3 (March), 52
- "Bunker-Ramo Offers New BR-700 Information System," 17/5 (May), 65
- "Bureau of National Affairs Inc. Acquires Fisher-Stevens, Inc.," 17/3 (March), 52
- "Burroughs Enters Agreement with Pro-Data Computer Services, Inc.," 17/5 (May), 56
- "Burroughs Finalizes Agreement with Japanese Firm for the Manufacture of Calculators," 17/5 (May), 56
- Burroughs 500, "New Number Added to Burroughs 500 Systems Family," 17/4 (Apr.), 61
- "Burroughs -- and Giant Machines," by Ted Schoeters, 17/5 (May), 4
- Buses, "Ward Plant Uses Computer to Get Buses to School on Time," 17/10 (Oct.), 58
- Business computers, "Soviet Lags in Use of Business Computers, but Plans Network That Will Run Entire Economy," 17/1 (Jan.), 11
- Business data processing, "Association for Computing Machinery Forms Special Interest Group on Business Data Processing (SIGBOP)," from Paul D. Oyer, 17/9 (Sept.), 12
- Business machines, "New Data Sets Transmit and Receive from Wide Variety of Business Machines," 17/8 (Aug.), 62
- Business News -- see Financial and Business News
- "BUSINESS NEWS: 17/2 (Feb.), 51
- "BUYERS' Guide to Products and Services in the Electronic Computing and Data Processing Field," 17/6 (June), 44
- "Buying ... and Selling ... Computer Time," by William P. Hegon, 17/9 (Sept.), 32
- CEA Financial Market Place: "\$70 Million Firm Seeks Service Bureau in Northeast," from K. Wiswell and the Editor, 17/7 (July), 17
- "CEA Production," from Ronald Cochran, 17/3 (March), 8
- CEA Worldwide -- see World Report
- CEA WORLDWIDE: "Report from Great Britain," by Ted Schoeters: 17/4 (Apr.), 36; 17/5 (May), 39; 17/12 (Dec.), 55
- "Schemeters from Great Britain," by Ted Schoeters, 17/3 (March), 33
- CALMA Company, "Chartpaper for Digital Incremental Plotters by CALMA Company," 17/10 (Oct.), 65
- CAPAL system, "Kodak's CAPAL System Placed in Research Project Service with 3-County Group of
- Upstate NY Schools," 17/4 (Apr.), 59
- CARD, "Computer Assisted Route Development (CARD) System," 17/12 (Dec.), 60
- "CAUM Comments," from Kenneth W. Kenner, 17/7 (July), 4; 17/8 (Aug.), 5
- "CC-30 Communications Station -- Portable System Uses a Standard Television Set," 17/1 (Jan.), 59
- "CDC Computer Schools Receive Accreditation," 17/10 (Oct.), 59
- "CDC Institutes Get NATTS Accreditation," 17/5 (May), 58
- CDC 6600: "Courant Institute at New York Univ. Ties 3 Institutions to Its CDC 6600," 17/8 (Aug.), 55
- "Scientists at Rensselaer Polytechnic Institute Link IBM 1130 with NU's CDC 6600," 17/5 (May), 65
- CDI, "Control Data Awards \$13,000 in Scholarships for Study at CDI," 17/7 (July), 50
- C-E-I-R, Inc., "Control Data Acquires C-E-I-R, Inc.," 17/1 (Jan.), 54
- "C-E-I-R's Multi-Access Computing Service Used for Poison Control," 17/1 (Jan.), 51
- "CMAP (Charge Materials Allocation Processor)," 17/11 (Nov.), 53
- COBOL, "Honeywell States Policy on COBOL and FORTRAN," 17/4 (Apr.), 58
- "COBOL-Alt," 17/2 (Feb.), 48
- "COBOL Reference Manual Available from Atlantic Software," 17/9 (Sept.), 65
- CODAP (Core/Drum Package), 17/4 (Apr.), 63
- "COSMOS Computer Optimization and Simulation Modeling for Operating Supermarkets," 17/12 (Dec.), 61
- "CPA (Computer Processing for Accounting)," 17/8 (Aug.), 59
- "CRT Display Terminal with Alpha-numeric and Graphic Capabilities," 17/11 (Nov.), 55
- "Caelus Memories, Inc. Provides 3-Year Warranty on Disk Pack," 17/7 (July), 48
- Calculator, "Canon Announces New Model 130S Calculator," 17/3 (March), 57
- "Howlett-Packard Model 9100A Calculator," 17/5 (May), 62
- "Burroughs Finalizes Agreement with Japanese Firm for the Manufacture of Calculators," 17/5 (May), 56
- CALENDAR OF COMING EVENTS: 17/1 (Jan.), 41; 17/2 (Feb.), 39; 17/3 (March), 44; 17/4 (Apr.), 50; 17/5 (May), 51; 17/6 (June), 42; 17/7 (July), 43; 17/8 (Aug.), 49; 17/9 (Sept.), 8; 17/10 (Oct.), 34; 17/11 (Nov.), 8; 17/12 (Dec.), 54
- Calgary Processing Center, "Compagnie Generale De Geophysique to Open Calgary Processing Center," 17/1 (Jan.), 53
- Calibrator, "Texas Instruments Used Computer-Centered Circuit Calibrator," 17/2 (Feb.), 42
- "California Computer Products Sponsors Art Competition," 17/10 (Oct.), 14
- Calls for Papers: "International Joint Conference on Artificial Intelligence, May 1969," 17/12 (Dec.), 13
- "Seventh Annual Conference of the Special Interest Group on Computer Personnel Research, of the Association for Computing Machinery, June 1969," 17/12 (Dec.), 13
- Campaign services, "Computer Campaign Services, a New Counseling Service," 17/2 (Feb.), 45
- Canada, "Computer Society of Canada Sixth National Conference," 17/3 (March), 59
- "Datacom -- A New Business Communication Service Being Marketed in Canada," 17/4 (Apr.), 61
- "Canon Announces New Model 130S Calculator," 17/3 (March), 57
- Car diagnosis, "Computer Improves Car Diagnosis Techniques," 17/3 (March), 49
- "Care and Handling of Computer Tapes is Subject of 3M Film," 17/7 (July), 50
- Carlson, Gordon R., "Communication Data Processing or Time Sharing?" Comment, 17/11 (Nov.), 11
- Carmon, Dr. James L., "Education Through Remote Terminals -- The University of Georgia Computer Network," 17/3 (March), 10
- Carnegie-Mellon Institute, "Regional Computing Center Established at Carnegie-Mellon Institute," 17/8 (Aug.), 56
- Carr, John W. III, "Who Will Man the New Digital Computers?" 17/9 (Sept.), 37
- Cars, "Photoelectric Sensing Head Automates Waxing of Cars," 17/11 (Nov.), 57
- Carter, Mrs. Ciel M., "Valuable Reference Tool," 17/9 (Sept.), 4
- Carter, Len, "Computers -- A New Public Utility," based on an Article in the *Ottawa Journal*, 17/9 (Sept.), 31
- "The Catching of Errors by Inspection -- and Particularly Proofreading Errors," by Edmund C. Berkeley, 17/9 (Sept.), 6
- Catholic schools, "NCR Seminars on Automated Record Handling for Catholic Schools," 17/8 (Aug.), 56
- Census: -- see "Monthly Computer Census"
- see "WORLD COMPUTER CENSUS"
- "Centralized Control of Belgium's Natural Gas Network," 17/5 (May), 54
- Centronics, "NCR Will Market Ultrasonic Datasets with Century Computers," 17/7 (July), 48
- "Century Series Computers Announced by NCR," 17/4 (Apr.), 52
- Certificate in data processing, "DPMA Syllabus for Certificate in Data Processing," 17/6 (June), 153
- Challenges, "What Are the Challenges Facing the Computer Industry?" by J. Stanford Smith, 17/10 (Oct.), 8
- Chamberlain, C. W., M.D., "How to Spoil One's Mind -- As Well as One's Computer" -- Some Comments, 17/12 (Dec.), 6
- "The Changing Nature of Programming," by Dr. Paul S. Herwitz, 17/1 (Jan.), 27
- Chapman, W. D. and W. D. Van Giesen, Jr., "Speech for Use with Computers, and the Problem of Fitting a Spoken Word into One Half Second," 17/11 (Nov.), 31
- "Characteristics of General Purpose Anal and Hybrid Computers," 17/6 (June), 136
- "Characteristics of General Purpose Digital Computers," 17/6 (June), 91
- "Charting a Running Company to Market Automated Drafter for Mergenthaler Linotype Co.," 17/1 (Jan.), 54
- "Chartpaper for Digital Incremental Plotters by CALMA Company," 17/10 (Oct.), 65
- "Christmas Wreath -- Computer Style," by Vaughan S. Mason, Annual Computer Art Contest, 17/8 (Aug.), 18
- Chromatographs, "GasChrom-8 for Analyzing Data from Multiple Gas Chromatographs," 17/4 (Apr.), 63
- Chromosomes, "Computer Analysis of Chromosomes Speeds Research into Hereditary Diseases," 17/7 (July), 45
- Chu, Ernest D., "Computers and Moral Questions -- Comments," 17/9 (Sept.), 4
- Circuit calibrator, "Texas Instruments Uses Computer-Centered Circuit Calibrator," 17/2 (Feb.), 42
- Circuit keyboard, "Integrated Circuit Keyboard from Honeywell," 17/11 (Nov.), 54
- Circuitry artwork, "Opti-Jat -- Automated System for Circuitry Artwork," 17/1 (Jan.), 59
- Citizens, "What the United States Government Knows About Its Citizens," by Sen. Edward V. Long, 17/3 (March), 12
- Civil engineering, "Integrated Civil Engineering System (ICES) for Programming -- Non-Proprietary," 17/4 (Apr.), 10
- Civil systems, "The Market for 'Civil Systems' Will Equal 10% of the Gross National Product



# Annual Index

- in 10 Years -- a Prediction," by Dr. Simon Ramo, 17/1 (Nov.), 11.
- Clark, R. Lawrence, "JOSS," 17/12 (Dec.), 4.
- Claude Shannon, "Gypsy, Model VI, Claude Shannon, Nimbit and the Mouse," by George A. W. Boehm, 17/1 (Jan.), 4.
- "Cleveland Jazz Spot Using Computerized Bartender," 17/11 (Nov.), 48.
- Clipping, Dr. Richard F., "How a Central Computing Laboratory Can Help Industry," 17/11 (Nov.), 42.
- Coburn, Lynn, "Course C12," 17/9 (Sept.), 4.
- Cochrane, Ronald, "CGA Production," 17/3 (March), 8.
- "Cogent II," 17/1 (Jan.), 57.
- "Cognitronics Acquires Balance of Computer Data Corp. Stock," 17/9 (Sept.), 57.
- "Cognitronics Introduces Remote Optical Character Recognition System," 17/18 (Commercial Time-Sharing Facility Opens in California), 17/12 (Dec.), 60.
- Cohen, Shirley, "Praise for Pictorial," 17/2 (Feb.), 7.
- College and university computer facilities, "Roster of College and University Computer Facilities," 17/6 (June), 138.
- Colors, "Computer Formulates Dyes, Matches Colors for Today's Brighter Fashion Shades," 17/10 (Oct.), 58.
- "Columbia's SP-100 Ribbon Provides Improved Imaging," 17/9 (Sept.), 64.
- "Coming Issues," 17/7 (July), 8.
- "Comments on Computers and Automation," from John C. Kountz, 17/5 (May), 9.
- "Commercial Credit and RCA are Forming Company for Nationwide Time-Sharing Computer Service," 17/4 (Apr.), 59.
- Commercial time-sharing facility, "G2's Largest Commercial Time-Sharing Facility Opens in California," 17/12 (Dec.), 60.
- "Common Airlines Reservations System from Control Data," 17/8 (Aug.), 60.
- Communicable diseases, "Control Program for Communicable Diseases Uses Computerized System," 17/12 (Dec.), 58.
- Communication, "Good Communication Between People, Between Machines, and Between People and Machines -- and Obfuscation," from Robert P. Bigelow, James Peacock, and the Editor, 17/7 (July), 10.
- Communication systems, "Trends in Computer/Communication Systems," by R. L. Simms, Jr., 17/5 (May), 22.
- "Communications Data Processing Systems: Design Considerations," by Lester A. Probst, 17/5 (May), 18.
- "Communications Data Processing or Time-Sharing?" by Lester A. Probst, 17/8 (Aug.), 34.
- "Communications Data Processing or Time-Sharing?" Comment," by Gordon R. Carlson, 17/11 (Nov.), 11.
- Communications firm, "Milgo Electronic Corporation Forms Communications Firm," 17/9 (Sept.), 58.
- Communications network, "New Translator Can Link Computers and Any Communications Network," 17/10 (Oct.), 64.
- Communications station, "CC-30 Communications Station -- Portable Television Set," 17/1 (Jan.), 59.
- "Com-Pact Terminal" (in Annual Pictorial Report), 17/12 (Dec.), 42.
- Compagnie Generale D'Automatism, "Elliott Process Automation and Compagnie Generale D'Automatism to Pool Experience," 17/1 (Jan.), 55.
- "Compagnie Generale De Geophysique to Open Calgary Processing Center," 17/1 (Jan.), 53.
- "Competitive Market for Computer Technology," 17/3 (March), 15.
- "Compiling Routines," by Dr. Grace N. Hopper, 17/3 (March), 45.
- "Complete Medical Examination at New Computerized Medical Diagnostic Center Takes Only 2-1/2 Hours," 17/9 (Sept.), 59.
- "Complete Pages Produced in Ten Seconds or Less -- at R. R. Donnelley & Sons," 17/11 (Nov.), 46.
- "Complete DP-8 Digital Plotter" (in Annual Pictorial Report), 17/12 (Dec.), 43.
- "Comprehensive Payroll Accounting System (CPACS)," 17/10 (Oct.), 62.
- "Computer's Roster Profit for Fiscal 1967," 17/2 (Feb.), 51.
- Compukey, Inc., "CRT Display Terminal with Alphabetic and Graphic Capabilities," 17/11 (Nov.), 55.
- Computer, "Safety Council Computer Analyzes Accident Data and Identifies Accident Patterns," 17/12 (Dec.), 57.
- Computer age, "Congress has not Really Entered the Computer Age -- and Should," by Congressman William S. Moorhead, 17/8 (Aug.), 28.
- "Computer Analysis of Chromosomes Speeds Research into Hereditary Diseases," 17/7 (July), 45.
- "Computer Answer Question -- 'Did Homer Write Both the Iliad and the Odyssey?'," 17/4 (Apr.), 57.
- "Computer Applications Inc. Purchase Home Testing Institute/TVO, Inc.," 17/2 (Feb.), 44.
- "Computer Art Reprints," from H. G. Martin, 17/11 (Nov.), 4.
- "Computer Artists in This Issue," 17/8 (Aug.), 27.
- "Computer-Assisted Cattle Judging" (in Annual Pictorial Report), 17/12 (Dec.), 49.
- Computer-assisted instruction, "University of Texas Advances Research in Computer-Assisted Instruction," 17/3 (March), 54.
- Computer-assisted instruction center, "Roster of Computer-Assisted Instruction Centers and Laboratories," 17/6 (June), 135.
- "Computer-Assisted Instruction Is Expanding," 17/1 (Jan.), 40.
- "Computer-Assisted Route Development (CARD) System," 17/12 (Dec.), 60.
- "Computer Automation, Inc. Announces the PDC 808 --," 17/7 (July), 52.
- "Computer Automation Inc. Markets Second 'Programmed Digital Controller,'" 17/10 (Oct.), 60.
- "Computer-Based Site Selection System for State of Missouri," 17/4 (Apr.), 57.
- "A Computer Bill of Rights," 17/9 (Sept.), 11.
- "Computer Bill of Rights Proposed," from Den Van Tassel, 17/9 (Sept.), 11.
- "Computer Campaign Services, a New Counseling Service," 17/2 (Feb.), 45.
- Computer center, "Blue Cross of Central Ohio Creates Computer Center Service for Hospitals," 17/5 (May), 59.
- "A Glimpse at the Future in Computer Centers -- The Technical Computer Center at Ford Motor Company," 17/1 (Jan.), 20.
- "Computer Checkout Planned for 109 Million Tax Forms," 17/5 (May), 55.
- "Computer Climate Control Unit" (in Annual Pictorial Report), 17/12 (Dec.), 48.
- Computer/communication systems, "Trends in Computer/Communication Systems," by R. L. Simms, Jr., 17/5 (May), 22.
- Computer communications, "The Future of Computer Communications -- and the Small Peripheral Equipment Manufacturers," by Ted Schoeters, 17/4 (Apr.), 48.
- Computer-composed music, "Winning Entries in the IFIP Congress Computer-Composed Music Competition," 17/7 (July), 17.
- Computer conference, "4th Australian Computer Conference, Adelaide, South Australia, August 1969 -- Call for Papers," by Dr. G. W. Hill, 17/8 (Aug.), 32.
- "Computer-Controlled Keyboard Input from Computer Machinery Corp.," 17/11 (Nov.), 54.
- "Computer-Controlled Optical System Hunts New Oil Sources," 17/7 (July), 45.
- Computer-controlled stadium scoreboards, "Oakland Athletics will have First Computer-Controlled Stadium Scoreboards," 17/7 (July), 45.
- Computer courses, "Ghetto Area Residents to Use Sanders Area Display Systems in Computer Courses," 17/10 (Oct.), 59.
- Computer Data Corp., "Cognitronics Acquires Balance of Computer Data Corp. Stock," 17/9 (Sept.), 57.
- "Computer Designed Arch Has Great Potential in the Building Field," 17/5 (May), 54.
- "Computer 'Devouring' Toronto for Public Works Dept. Repair Program," 17/1 (Jan.), 51.
- Computer-directed machine, "Pre-fabricated Walls Built Automatically with Computer-Directed Machine," 17/10 (Oct.), 57.
- "Computer Directory and Buyers' Guide -- Comments," from Sidney J. Grossberg and the Editor, 17/9 (Sept.), 12.
- "Computer Display Station for Small, Remote Offices Announced by IBM Corporation," 17/4 (Apr.), 65.
- Computer education field, "Granite Equipment Leasing Enters Computer Education Field; Also Acquires Transportation Organization," 17/7 (July), 48.
- Computer facilities, "Roster of College and University Computer Facilities," 17/6 (June), 138.
- Computer facility, "North Carolina Universities Arrange Cooperative Educational Computer Facility," 17/12 (Dec.), 59.
- Computer field, "Remote Batch Processing and Other Good New Ideas in the Computer Field," by Edmund C. Berkeley, 17/10 (Oct.), 6.
- "Who's Who in the Computer Field -- and Who are the Distinguished Computer People?," by Edmund C. Berkeley, 17/7 (July), 6.
- "Computer Forms Printer" (in Annual Pictorial Report), 17/12 (Dec.), 48.
- "Computer Formulates Dyes, Matches Colors, for Today's Brighter Fashion Shades," 17/10 (Oct.), 58.
- Computer graphics, "Interactive Computer Graphics," by Henry J. Genthner, 17/11 (Nov.), 14.
- "Computer Graphics" from Lawrence E. Antonino, 17/4 (Apr.), 9.
- "Computer Graphics in Electronic Circuit Design," by J. Robert Logan, 17/11 (Nov.), 28.
- "Computer is Helping to Change the Shape of Airports Around the World," 17/7 (July), 46.
- "Computer Helps Test Computers at IBM Manufacturing Plant," 17/5 (May), 55.
- "Computer Improves Car Diagnosis Techniques," 17/3 (March), 49.
- Computer industry, "Government Seeks New Data on Competition in the Computer Industry," by Stanley Penn, 17/1 (Jan.), 24.
- "1968 Prediction for the Computer Industry," by Isaac L. Auerbach, 17/2 (Feb.), 10.
- "What are the Challenges Facing the Computer Industry?" by J. Stanford Smith, 17/10 (Oct.), 8.
- "Computer Industries Inc. Has Announced a New Graphics Systems Division," 17/1 (Jan.), 54.
- Computer and information science, "Ohio State To Grant Degrees in the Field of Computer and Information Science," 17/2 (Feb.), 45.
- Computer Learning Corp., "Four Top Computer Management Officials Form Computer Learning Corp.," 17/2 (Feb.), 44.
- Computer Machinery Corp., "Computer-Controlled Keyboard Input from Computer Machinery Corp.," 17/11 (Nov.), 54.
- "Computer Making Impact at Construction Sites for Norair Engineering Corp.," 17/4 (Apr.), 58.
- Computer market, "Control Data Corporation Plays Increasingly Important Role in World Computer Market," by Ted Schoeters, 17/2 (Feb.), 20.
- COMPUTER MARKET REPORT: 17/5 (May), 44.
- "American Dominance of World Computer Market," by Ted Schoeters, 17/7 (July), 32.
- "The Future of Computer Communications -- and the Small Peripheral Equipment Manufacturers," by Ted Schoeters, 17/4 (Apr.), 48.
- "Honeywell -- 'the other Computer Company,'" by Ted Schoeters, 17/9 (Sept.), 50.
- "In the Background... Government Procurement Policies, a Computerized Stock Exchange, Continued Sales, and Research for the 'Fifth' Generation," by Ted Schoeters, 17/11 (Nov.), 40.
- "Standardization -- and Current Sales in the World Market," by Ted Schoeters, 17/3 (March), 38.
- "Computer May Help Detect Forgeries of Priceless Porcelain," 17/7 (July), 4/4 (Apr.), 7.
- Computer Methods Corp., "Computer Tutorial Film Series by Computer Methods Corp.," 17/7 (July), 49.
- "Computer Monitoring System Used for Postoperative Care of Open-Heart Surgery Cases at University of Alabama," 17/3 (March), 50.
- "Computer-Pak" (in Annual Pictorial Report), 17/12 (Dec.), 48.
- "Computer-Pak, for Computer-Printer Envelope Addressing," 17/11 (Nov.), 56.
- Computer people, "Are Computer People The Tools of Their Tools?" by James R. Gignone, 17/12 (Dec.), 12.
- "Access to Information and a Mailing List of All Computer People -- II," by Edmund C. Berkeley, 17/4 (Apr.), 7.
- Computer peripherals Corp., "Modular 3rd Generation Disk-Storage System from Computer Peripherals Corp.," 17/11 (Nov.), 53.
- Computer person, "Access to a Computer for Every Computer Person -- Are We There?" by Edmund C. Berkeley, 17/12 (Dec.), 6.
- Computer, "Potter Instrument Co. Introduces New Low Cost General Purpose Computer," 17/3 (March), 56.
- Computer-printer, "Computer-Pak, for Computer-Printer Envelope Addressing," 17/11 (Nov.), 56.
- "Computer Professionals for Peace (CPP) Are Programming a Computer to Produce Voting Lists to Aid Peace Candidate Campaigns," by Edward Elkind, 17/7 (July), 14.
- "Computer Professionals Show Little Awareness of Social Responsibility," from Robert B. Godwin and from the Editor, 17/9 (Sept.), 11.
- Computer programming, "Prison Inmates Learn, Then Teach Computer Programming," 17/3 (March), 53.
- Computer programs, "ICP Quarterly Catalog of Computer Programs Adds Three New Sections," 17/12 (Dec.), 62.
- "Computer Questions Patients at Mass. General Hospital," 17/7 (July), 47.
- COMPUTER RELATED SERVICES: 17/2 (Feb.), 45; 17/4 (Apr.), 60; 17/9 (Sept.), 39; 17/10 (Oct.), 66; 17/11 (Nov.), 56; 17/12 (Dec.), 59.
- "Computer Resources Sharing -- Some Comments and Predictions," by Norman Doelling, 17/10 (Oct.), 36.
- "Computer Room Paper Shredder," 17/10 (Oct.), 65.
- "Computer Salary Survey," 17/10 (Oct.), 54.
- Computer schools, "CDC Computer Schools Receive Accreditation," 17/10 (Oct.), 59.
- Computer science, "University of Rhode Island Establishes Department of Computer Science," 17/1 (Jan.), 54.
- Computer Science and Engineering Board, "National Academy of Sciences Establishes a 'Computer Science and Engineering Board,'" 17/8 (Aug.), 29.
- "Computer Sciences Corp. Announces Formation of Computer Sciences Institute," 17/5 (May), 56.
- "Computer Sciences Corp. Applies for Withdrawal of Proposed Shares Offering," 17/2 (Feb.), 51.
- "Computer Sciences Corp.'s Computer-Based Instant Accounting Service for Financial Institutions," 17/4 (Apr.), 60.
- Computer Sciences Institute, "Computer Sciences Corp. Announces Formation of Computer Sciences Institute," 17/5 (May), 56.
- "Computer Selection," by Joseph A. Orlicky, 17/9 (Sept.), 44.
- Computer service, "Tallman, Robbins & Company Enters Computer Service Field," 17/9 (Sept.), 59.
- "Computer Service to Aid Government Contractors," 17/4 (Apr.), 61.
- "Computer Services, Inc. Merges with United Data Centers, Inc.," 17/3 (March), 57.
- Computer Services Network, "Philco-Ford's Computer Services Network (CSN) Will Offer Time-Sharing Services," 17/9 (Sept.), 60.
- "Computer Simulation of Semiconductor Devices," 17/7 (July), 46.
- Computer skills, "Africans Learn Modern Computer Skills," 17/7 (July), 49.
- "Computer Society of Canada Sixth National Conference," 17/3 (March), 59.
- "Computer Speeds Publishing at Ken Cook Co.," 17/4 (Apr.), 58.
- Computer tape accessories, "3M Company Offers New Computer Tape Accessories," 17/3 (March), 59.
- Computer tape firm, "MACS Announces Acquisition of Computer Tape Firm," 17/9 (Sept.), 57.
- Computer tapes, "Care and Handling of Computer Tapes is Subject of 3M Film," 17/7 (July), 50.
- Computer technology, "Competitive Market for Computer Technology," 17/3 (March), 15.
- "Law and Computer Technology," from Vaughn C. Ball, 17/7 (July), 4; 17/8 (Aug.), 4.
- Computer time, "Buying... and Selling... Computer Time," by William P. Hegan, 17/9 (Sept.), 32.
- "Computer Training for the Disadvantaged," by Sherry Langdale, 17/11 (Nov.), 4.
- Computer training facility, "Control Data Institute is Building Campus-Type Computer Training Facility," 17/10 (Oct.), 59.
- Computer training package, "Computer Usage Education Announces 'On-Site' Computer Training Package," 17/5 (March), 54.
- "Computer Training in Private Schools," by Sven A. Larsen, 17/3 (March), 22.
- "Computer Training Schools," from Van A. Hartman and from John Cushing, 17/10 (Oct.), 4.
- Computer trainer, "Feedback Ltd.'s Low-Cost Computer Trainer Covers Wide Range of Binary Operations," 17/10 (Oct.), 66.
- "Computer Tutorial Film Series by Computer Methods Corp.," 17/7 (July), 49.
- Computer/TV outputs, "PMTech-nisms Inc. Markets a Copy Generator System for Computer/TV Outputs," 17/9 (Sept.), 62.
- "Computer Usage Education Announces 'On-Site' Computer Training Package," 17/3 (March), 54.
- Computer users' groups, "Roster of Computer Users' Groups," 17/6 (June), 131.
- "Computerized Accounting Service for Mortgage Banks and Mortgage Loan Companies," 17/12 (Dec.), 59.
- Computerized bartender, "Cleveland Jazz Spot Using Computerized Bartender," 17/11 (Nov.), 48.
- "Computerized Games Help New York Youngsters Learn How to Run a Store, a Company or a Country," 17/4 (Apr.), 60.

## Annual Index

- y. 1969

# Annual Index

- Datacoupler, "New Datacoupler Links Any Digital Tape Recorder to Any Signal Source," 17/10 (Oct.), 65
- "Datacraft Corporation Announces Series 6000 Computer System," 17/10 (Oct.), 60
- Datametrics' coupler, "One Computer Talks to Another with Datametrics' Coupler," 17/10 (Oct.), 64
- "DATAPORT" Teletypewriter Data Terminal Travels Anywhere -- Sets up in Minutes," 17/8 (Aug.), 62
- Datel Corporation, "Conversational Data Terminal from Datel Corporation Doubles as Office Typewriter," 17/8 (Aug.), 61
- Davidson, Dr. Leon, "Practical Considerations in Program Patentability," 17/5 (May), 12
- "Truthful Facts into Computers," 17/1 (Jan.), 8
- Davis, Sidney, "A Flexible Concept for Recruiting Data Processing Personnel for the 1970's," 17/9 (Sept.), 22
- "Decade Computer Corporation Announces Decade 70/2," 17/9 (Sept.), 60
- Decade counter, "Midgi-Counter," Smallest Decade Counter, by Philites Inc., 17/10 (Oct.), 65
- "The Decade 70, a New General Purpose Computer," 17/7 (July), 52
- Decade 70/2, "Decade Computer Corporation Announces Decade 70/2," 17/9 (Sept.), 60
- "December Editorial -- Correction," 17/1 (Jan.), 14
- Decitex, "Low Speed Tape Reader Produced by Decitex," 17/9 (Sept.), 64
- Dedicated systems, "A New Concept in Time Sharing: Dedicated Systems Share One Computer," by Gerald J. Smolen, 17/10 (Oct.), 30
- "Deformation of Sharaku," by Haruki Tsuchiya, Koji Fujino, and Kamoto Ohkake, Annual Computer Art Contest, 17/8 (Aug.), 25
- "Denmark's First Time-Sharing Service," 17/11 (Nov.), 57
- Design considerations, "Communications Data Processing Systems: Design Considerations," by Lester A. Probst, 17/5 (May), 18
- Desktop computer: "Wang Laboratories New Desktop Computer, Model 380," 17/5 (May), 59
- "Wang Desk-Top Computer 'Learns' Programs," 17/10 (Oct.), 60
- "Detecting Proofreading Errors Without a Computer," by John H. Reddersen, 17/12 (Dec.), 12
- Detroit area, "Time-Sharing Center Opened by New Firm in Detroit Area," 17/9 (Sept.), 60
- "Detroit Firm Organizes Scheduled Dog Shows Using Computer," 17/7 (July), 46
- Deutsch, Arnold R., "The Growing Crisis in Technical Manpower in the United States," 17/3 (March), 14
- "Development of Technology to Produce Global Safety from War, Beginning With Safe Initiatives," by Howard G. Kurtz and Harriet B. Kurtz, 17/5 (May), 14
- Diagnostic Center, "Complete Medical Examination at New Computerized Medical Diagnostic Center Takes Only 2-1/2 Hours," 17/9 (Sept.), 59
- Dialight Corp., "Numeric Readouts, from Dialight, are Mounted on Printed Circuit Boards," 17/11 (Nov.), 56
- "Different Differences," by Walter Penney, 17/8 (Aug.), 51
- "DIGAC 301000, a Digital Logic Trainer," 17/3 (March), 53
- "DIGIT 150 Series -- Data Multiplexing System for Computer Time-Sharing Centers," 17/9 (Sept.), 63
- "Digitnet Series" (in Annual Pictorial Report), 17/12 (Dec.), 81
- "Digitnet Series" Is GE's Entry into the Digital Communications Business," 17/1 (Jan.), 58
- Digital-analog systems, "Adage Announces a New Distributor for Digital-Analog Systems," 17/4 (Apr.), 66
- Digital communications, "Digitnet Series" Is GE's Entry into the Digital Communications Business," 17/1 (Jan.), 58
- Digital computers: "Characteristics of General Purpose Digital Computers," 17/6 (June), 91
- "ELBIT 100, a New Low Cost Digital Computer," 17/3 (March), 55
- "The Impact of Digital Computers Upon Steel Works Operations," by W. E. Miller, 17/7 (July), 22
- "A Digital Computer With Automatic Self-Repair and Majority Vote," by Dr. Avizienis, 17/5 (May), 13
- Digital computer memory, "MDM-X Digital Computer Memory," 17/8 (Aug.), 58
- Digital computer system, "Leeds & Northrup LSNK Digital Computer System for Process Control," 17/8 (Aug.), 56
- "EAI 8400 MOD II, Scientific Digital Computing System," 17/1 (Jan.), 55
- Digital deflection technique, "Graphic Display Subsystem Provides Digital Deflection Techniques," 17/11 (Nov.), 55
- "Digital Equipment Announces Two New Low-Cost Computers, PDP-8/L and PDP-9/L," 17/8 (Aug.), 56
- Digital Equipment Corp., "Multi-Language, Time-Sharing Computer Systems from Digital Equipment Corp.," 17/11 (Nov.), 49
- "Digital Equipment Offering Leasing Agreement To Schools," 17/5 (May), 56
- Digital incremental plotters, "Chartpaper for Digital Incremental Plotters by CALMA Company," 17/10 (Oct.), 63
- Digital logic trainer, "DIGIAC 201000, a Digital Logic Trainer," 17/3 (March), 53
- Digital peripheral field, "Paragon Systems Enters Digital Peripheral Field," 17/2 (Feb.), 44
- Digital plotter, "Houston Instrument Introduces New Digital Plotter," 17/5 (May), 63
- Digital tape recorder, "New Datacoupler Links Any Digital Tape Recorder to Any Signal Source," 17/10 (Oct.), 65
- "Digitex Agrees to Acquire Measurement Analysis Corp.," 17/3 (March), 52
- Digitizing system, "Grafacon 2051 Magnetics Digitizing System," 17/2 (Feb.), 50
- "Digitronics Inc., New Consulting Firm," 17/3 (March), 52
- Digitronics Corp., "Acoustic-Coupled Data Set from Digitronics Corp.," 17/3 (March), 62
- "Digitronics Model 2540 Perforated Tape Reader," 17/2 (Feb.), 50
- Dileonardo, D. J., "Sliced Nuclear Reactor," Annual Computer Art Contest, 17/8 (Aug.), 23
- "Direct Access Storage System for UNIVAC 9000 Series," 17/2 (Feb.), 46
- Directory information, "Verification of Computer Directory Information," from I. J. Kusel and the Editor, 17/8 (Aug.), 30
- Disadvantaged, "Computer Training for the Disadvantaged," by Sherry Langdale, 17/11 (Nov.), 39
- Disc, "RCA Disc Operating System (DOS)," 17/8 (Aug.), 60
- Disc drive, "Memorex 630 Series Disc Drive," 17/2 (Feb.), 46
- Disc-equipped version, "GE Unveils Disc-Equipped Version of the GE-405 Computer," 17/7 (July), 51
- Disc memories, "Thirteen Track Flying Head for Disc Memories from Applied Magnetics," 17/8 (Aug.), 58
- Disc pack, "Pack-Scan I -- Disc Pack Basic Data Certifier," 17/11 (Nov.), 56
- Disc-storage system, "Modular 3rd Generation Disc-Storage System from Computer Peripherals Corp.," 17/11 (Nov.), 53
- DISCFILE, "Data Products Announces New DISCFILE, Model 2065," 17/1 (Jan.), 56
- "Data Products Announces Time/Share DISCFILE," 17/5 (May), 61
- Disc packs, "Potter AULOGIC Makes 50% Storage Capacity Increases Possible for all Disc Packs and 1,600 BPI Tape Handlers," 17/1 (Jan.), 57
- Disk drive, "Potter DD4311 Disk Drive Is IBM Compatible," 17/8 (Aug.), 48
- "Disk Liberator," 17/7 (July), 53
- Disk pack, "Caelus Memories, Inc. Provides 3-Year Warranty on Disk Pack," 17/7 (July), 48
- Display terminal, "EEC Data-Screen Display Terminal Combines Fixed and Variable Message Display," 17/2 (Feb.), 50
- "DOCUMENTIC," 17/11 (Nov.), 53
- "Document Reader-Sorter Especially for Bankers," 17/10 (Oct.), 64
- "Documentary Evidence for Court Case Organized by Computer at Information Engineering," 17/2 (Feb.), 42
- Doellinger Norman, "Computer Resources Sharing -- Some Comments and Predictions," 17/10 (Oct.), 36
- Dog shows, "Detroit Firm Organizes Scheduled Dog Shows Using Computer," 17/7 (July), 46
- Donnelley, R. R. & Sons, "Complete Pages Produced in Ten Seconds or Less -- at R. R. Donnelley & Sons," 17/11 (Nov.), 57
- Dresser Industries, "Specification Handbook for Supervisory Control Systems, from Dresser Industries," 17/11 (Nov.), 57
- Dreyer, Leonard, "Principles of a Two-Level Memory Computer," 17/5 (May), 40
- Drilling rig, "Computer is Operating Drilling Rig for Humble Oil," 17/2 (Feb.), 43
- Drivers' licenses, "New York State System Duplicates Drivers' Licenses Via Remote Terminals," 17/9 (Sept.), 55
- Driving simulator, "GM Engineers Developing Driving Simulator," 17/5 (May), 66
- Drum memory, "Small, High-Density Drum Memory Announced by Vermont Research Corp.," 17/7 (July), 53
- Drums, "Honeywell Adds High-Speed Drums for Mass Storage to Its Product Line," 17/9 (Sept.), 61
- Dual processing computer, "Varian Data 5201 Dual Processing Computer," 17/9 (Sept.), 60
- Duggan, Michael A., "Reassignment Cases," 17/1 (Jan.), 8
- Dura converters, "Full ASCII Code Now Available on Dura Converters," 17/4 (Apr.), 65
- Dusting, "Portable Air Spray for Delicate Dusting," 17/11 (Nov.), 9
- Dyes, "Computer Formulates Dyes, Matches Colors for Today's Brighter Fashion Shades," 17/10 (Oct.), 58
- "Dyna Research Corp. Enters Computer Market with Low-Cost Machine," 17/10 (Oct.), 60
- E
- EAI, "100-V Analog/Hybrid Computing System from EAI," 17/11 (Nov.), 50
- "EAI 8400 MOD II, Scientific Digital Computing System," 17/1 (Jan.), 55
- EDP records, "Data-Bank Fire Vault by Wright Line Listed by U.L. for Storage of EDP Records," 17/5 (May), 65
- EDP service, "ADAPSO Suit To Bar Banks from Selling EDP Service Is Rejected," 17/2 (Feb.), 51
- EDP Service Bureau, "How to Choose and Use an EDP Service Bureau," 17/3 (March), 10
- EDEC, "A-D Converter from EDEC Provides 250,000 Conversations/Second," 17/11 (Nov.), 55
- "EGGS Enters Agreement to Acquire Wolf Research and Development Corporation," 17/3 (March), 52
- E.L.I. Computer Time Sharing, "E.L.I. Industries, Inc. Forms New Subsidiary -- E.L.I. Computer Time Sharing," 17/10 (Oct.), 66
- "E.L.I. Industries, Inc. Forms New Subsidiary -- E.L.I. Computer Time Sharing," 17/10 (Oct.), 66
- EPSCO, Inc., "Analog-to-Digital Converter DATRAC IV, from EPS-
- CO, Inc., 17/2 (Feb.), 49
- Earth science, "Nationwide Earth Science Computer Network Is Now Operational," 17/7 (July), 45
- Eckman, Donald P., "Award to be Given for Outstanding Contribution in the Field of Automatic Control," 17/2 (Feb.), 13
- Editor -- see "Letters to the Editor"
- Editor's desk -- see "Across the Editor's Desk"
- EDITORIAL: "Access to a Computer for Every Computer Person -- Are We There?," by Edmund C. Berkeley, 17/12 (Dec.), 6
- "Access to Information and a Mailing List of All Computer People," by Edmund C. Berkeley, 17/1 (Jan.), 6
- "Access to Information and a Mailing List of all Computer People -- II," by Edmund C. Berkeley, 17/4 (Apr.), 7
- "Applications and Nonapplications of Computers," by Edmund C. Berkeley, 17/6 (June), 6
- "The Catching of Errors by Inspection -- and Particularly Proofreading Errors," by Edmund C. Berkeley, 17/9 (Sept.), 6
- "Computers and Moral Questions," by Edmund C. Berkeley, 17/3 (March), 7
- "How to Obfuscate, and How Not To," by Edmund C. Berkeley, 17/5 (May), 7
- "How to Spoil One's Mind -- as Well as One's Computer," by Edmund C. Berkeley, 17/8 (Aug.), 6
- "Operation Bootstrap in the Computer Field," by Edmund C. Berkeley, 17/11 (Nov.), 6
- "The Problem of Keeping Up With One's Reading," by Edmund C. Berkeley, 17/2 (Feb.), 6
- "Remote Batch Processing and Other Good New Ideas in the Computer Field," by Edmund C. Berkeley, 17/10 (Oct.), 6
- "Who's Who in the Computer Field -- and Who are the Distinguished Computer People?," by Edmund C. Berkeley, 17/7 (July), 5
- Education, "Automating Better Education," from Enoch Hage, 17/11 (Nov.), 4
- "Computers and Education," from Charles Hutchinson, 17/7 (July), 4
- "Computers and Education," from Charles Hutchinson, 17/8 (Aug.), 4
- "Computers and Education," from Glenn W. Pearson, 17/5 (May), 9
- "There is a Crying Need for Improvement in the Technique of Education," by Dick H. Brandon, 17/1 (Jan.), 40
- Education Dept., "DPA Standards Committee for Private Data Processing Schools Has Been Formed by DPMA," 17/7 (July), 12
- EDUCATION NEWS: 17/2 (Feb.), 45; 17/3 (March), 53; 17/4 (Apr.), 59; 17/5 (May), 58; 17/7 (July), 49; 17/8 (Aug.), 56; 17/9 (Sept.), 58; 17/10 (Oct.), 59; 17/12 (Dec.), 59
- "Education Through Remote Terminals -- The University of Georgia Computer Network," by James L. Carmon, Ph.D., 17/3 (March), 18
- Ehlers, Marvin W., "ACN National Conference in August 1968 -- Call for Papers," 17/1 (Jan.), 14
- "Elbit Computers Ltd. Has Moved up to the Number Two Spot Among Small Computer Manufacturers on the Continent," 17/11 (Nov.), 56
- "ELBIT 100, a New Low Cost Digital Computer," 17/3 (March), 55
- Electron beam, "Two Mile Long Electron Beam Probes Atom With Aid of Computer," 17/2 (Feb.), 43
- Electron Ohio Inc., "Data Collection System from Electron Ohio Inc. for Industrial Plants," 17/2 (Feb.), 49
- Electronic Associates, "First Hybrid-Digital X-Y Plotter Introduced by Electronic Associates," 17/7 (July), 54
- Electronic Associations, Inc.: "Control Data Corporation and Electronic Associates, Inc. End Acquisition Negotiations," 17/7 (July), 47
- "Reach Preliminary Agreement for Acquisition of Electronic Associates Inc. by Control Data Corporation," 17/4 (Apr.), 59
- "Electronic Box Offices" (in Annual Pictorial Report), 17/12 (Dec.), 46
- Electronic circuit design, "Computer Graphics in Electronic Circuit Design," by J. Robert Logan, 17/11 (Nov.), 5
- Electronic computing: "Buyers' Guide to Products and Services in the Electronic Computing and Data Processing Field," 17/6 (June), 44
- "Over 1400 Applications of Electronic Computing and Data Processing Equipment," 17/6 (June), 134
- "Roster of Organizations in the Electronic Computing and Data Processing Industry," 17/6 (June), 8
- "Electronic Devices Can Protect Privacy As Well as Invasions," by John E. Foster, 17/9 (Sept.), 15
- "Electronic Equipment Applied to Periodic Billing," by E. F. Cooley, 17/10 (Oct.), 51
- Electronic Memories, "Small Capacity Core Memory System from Electronic Memories," 17/1 (Jan.), 56
- "Electronic Memories Adds 900 Nanosecond System to Nanosecond Line," 17/2 (Feb.), 47
- "Electronic Memories Inc. Adds New Storage Capacity to MICRO-MEMORY 1000 System," 17/10 (Oct.), 61
- "Electronic Money Counters to Aid Tax Collectors of Nevada," 17/3 (March), 51
- Electronic ocean, "Computers Create Electronic Ocean at Honeywell Lab," 17/8 (Aug.), 53
- "Electronic Test-Score Provides High-Speed Grading," 17/3 (March), 53
- Electronic voice, "Computer's Voice," 17/10 (Oct.), 5
- Encoders, "Computer Services Customers of the Wisconsin Telephone Company," 17/1 (Jan.), 52
- Elkind, Edward, "Computer Professionals for Peace (CPP) Are Organizing a Computer to Produce Voting Lists to Aid Peace Candidate Campaigns," 17/7 (July), 14
- "Elliott Process Automation and Compagnie Generale D'Automatisme To Pool Experience," 17/1 (Jan.), 55
- "Embezzling Primer" from J.C. Stephenson, Jr., 17/4 (Apr.), 9
- Encoders, "Librascope's New Optical Shaft Encoders," 17/10 (Oct.), 65
- Encyclopedic, tutorial, "Both 'Encyclopedic, Tutorial' and 'Information-Dispensing' Information Retrieval Systems Should Receive Emphasis," 17/11 (Nov.), 20
- England, "Immediate Nationwide Information About Job Vacancies in England," 17/1 (Jan.), 11
- Entry system, "New Data Entry System Speeds up Input and Reduces Cost," 17/11 (Nov.), 55
- Envelope addressing, "Computer-Pak, for Computer-Printer Envelope Addressing," 17/11 (Nov.), 56
- Environmental conditions, "Crop Production Studies Helping Determine Best Environmental Conditions for Maximum Yields," 17/12 (Dec.), 58
- "Environmental Control of Buildings Through Use of Computers," 17/11 (Nov.), 47
- Epley, Donald L., "1969 IEEE Computer Group Conference Call for Papers," 17/10 (Oct.), 12
- "An Errant Computer Throws Wholesale Grocer's Business into Turmoil," 17/5 (May), 14
- Errors, "The Catching of Errors by Inspection -- and Particularly Proofreading Errors," by Edmund C. Berkeley, 17/9 (Sept.), 6
- Errors in computing election returns, "A Flaw in Programming Caused the Errors in Computing



# Annual Index

- Election Returns," 17/12 (Dec.), 63
- Essex Plant Computer Tests Thermometers Automatically," 17/2 (Feb.), 41
- Europe: "Bakkenist Auerbach N.V., Computer Consulting Firm, Formed in Europe," 17/4 (Apr.), 59
- "Leaseco Begins Operations in Europe -- to Lease Computers in Five Countries," 17/3 (March), 51
- "Evaluating Computer Training Schools," from A. H. Franking, 17/5 (May), 8
- "Evaluating EDP Service Bureaus -- And Consulting Firms," by Dennis D. Sheaks, 17/12 (Dec.), 10
- Evans, Dr. David C., "Utah Computer Researchers Create 'Idea Photographs,'" 17/2 (Feb.), 11
- "Excellent Magazine," from Arthur N. Conner, Jr., 17/11 (Nov.), 4
- "Exhaust Gas Data Acquisition and Reduction Systems," 17/8 (Aug.), 57
- Expectation, "POLE (Public Opinion Logical Expectation)," 17/10 (Oct.), 63
- Export credits, "All Bank Export Credits Should Be Exempted from Present Ceilings," by Richard Bliss, 17/4 (Apr.), 53
- "EXTENDED BASIC," 17/11 (Nov.), 53
- "Extreme Environment Tape Makes Computer Operation Possible in Extremes of Heat and Cold," 17/1 (Jan.), 60
- F
- "FEC Inquiry and Applications of Computers," from H. V. Greenberg, 17/2 (Feb.), 6
- "FLIRT (Fortran Logical Information Retrieval Technique)," 17/12 (Dec.), 61
- "Fabri-Tek Introduces New Control Keyboard Console BI-TRAN SIX Computer," 17/10 (Oct.), 61
- "Facsimile Newspapers in Homes, Visioned in 1909," by M. K. Ramdas, 17/5 (May), 16
- Factory: "Computers in the Factory (Part 1)," by David W. Brown, 17/7 (July), 38
- "Computers in the Factory (Part 2)," by David W. Brown, 17/8 (Aug.), 50
- Fairchild's memory products section, "Data Products to Acquire Fairchild's Memory Products Section," 17/3 (March), 51
- "Farrington Manufacturing Co. Acquires New Process for Photo-Etching Plastic," 17/5 (May), 58
- Fashion shades, "Computer Formulates Dyes, Matches Colors for Today's Brighter Fashion Shades," 17/10 (Oct.), 58
- "Fast New Tape Reader Feeds IBM M/T/ST Tape Cartridge Into IBM 360 Computer in 15 Seconds," 17/9 (Sept.), 64
- "Paul Associates Announces New Time-Sharing Program," 17/7 (July), 50
- Federal Communications Commission, "New Proposals Filed by AT&T with Federal Communications Commission," 17/10 (Oct.), 67
- "Feedback Ltd.'s Low-Cost Computer Trainer Covers Wide Range of Binary Operations," 17/10 (Oct.), 61
- Fenske, Russell W., "The Full Control of Operations in Data Processing," 17/4 (Apr.), 17
- "Ferrocubes Announces Compact, Low-Cost Memory System With Random Access," 17/1 (Jan.), 55
- FIFTEEN YEARS AGO IN COMPUTERS AND AUTOMATION: 17/5 (May), 50; 17/10 (Oct.), 51; 17/12 (Dec.), 52
- "Compiling Routines," by Dr. Grace M. Hopper, 17/3 (March), 45
- "Computers in the Factory (Part 1)," by David W. Brown, 17/7 (July), 38
- "Computers in the Factory (Part 2)," by David W. Brown, 17/8 (Aug.), 50
- "Gypsy, Model VI, Claude Shannon, Nimmit and the Mouse," by George A. W. Boehm, 17/1 (Jan.), 49
- "How a Central Computing Laboratory Can Help Industry," by Dr. Richard F. Clippinger, 17/11 (Nov.), 42
- "Mechanical Translation," by Andrew D. Booth, 17/4 (Apr.), 54
- "Who Will Man the New Digital Computers?," by John W. Carr III, 17/9 (Sept.), 37
- "Fifth Annual Computer Programming Contest for Grades 7 to 12," 17/1 (Jan.), 12
- "File-card," UNIVAC Develops New 'File-Card' and Method of Processing Information Records," 17/5 (May), 66
- Filing, "Southern Pacific Railroad Does Filing by Television Signals," 17/10 (Oct.), 57
- Film, "Improving Man-Computer Graphical Communication Described in New Film" 17/5 (May), 58
- Film series, "Computer Tutorial Film Series by Computer Methods Corp.," 17/7 (July), 49
- "Filmstrip Projector" (in Annual Filmstrip Report), 17/12 (Dec.), 44
- FINANCIAL AND BUSINESS NEWS: 17/5 (May), 67; 17/9 (Sept.), 65; 17/10 (Oct.), 67; 17/12 (Dec.), 63
- Financial institutions, "Computer Sciences Corp.'s Computer-Based Accounting Service for Financial Institutions," 17/4 (Apr.), 60
- Financial services, "Roster of Organizations Specializing in Leasing or Financial Services in the Computer Field," 17/6 (June), 88
- Fine, Joan K., "Computers in High Schools -- a 'Hands On' Approach," 17/3 (March), 26
- Fire research, "U.S. Forest Service is Using Computers to Aid Fire Research," 17/3 (March), 50
- Fire vault, "Data-Bank Fire Vault by Wright Line Listed by U.S. for Storage of EDP Records," 17/5 (May), 67
- "First Hybrid-Gid X-Y Plotter Introduced by Electronic Associates," 17/7 (July), 54
- "First Patent for Software Sorting System Granted to Applied Data Research," 17/8 (Aug.), 54
- "First Supersonic Airport Gets First, Driverless, Trackless Passenger Train," 17/1 (Jan.), 61
- "The Fisherman," by Kerry Strand, Annual Computer Art Contest, 17/8 (Aug.), 9
- Fisher-Stevens, Inc., "Bureau of National Affairs Inc. Acquires Fisher-Stevens, Inc.," 17/3 (March), 52
- "Fixed Asset Accounting," 17/10 (Oct.), 62
- "A Film in Programming Caused the Errors in Computing Election Returns," 17/12 (Dec.), 63
- Flesch, Rudolf, "How to Talk about Computers," 17/5 (May), 50
- "A Flexible Concept for Recruiting Data Processing Personnel for the 1970's," by Sidney Davis, 17/9 (Sept.), 22
- "Flexible Multilayered Printed Circuit Developed by Tyco's Electrolab Division," 17/8 (Aug.), 63
- "The Flood of Automatic Computers," by Neil Macdonald, 17/12 (Dec.), 52
- Flood evacuation, "Vancouver Suburb Uses Computer to Prepare for Flood Evacuation," 17/9 (Sept.), 35
- Flow chart kits, "Magnetic 'Flow Chart' Kits by National Cybernetics," 17/10 (Oct.), 65
- "FLOMENG-F-1," 17/11 (Nov.), 53
- "FORCE-III," 17/4 (Apr.), 61
- Ford Motor Company, "A Glimpse at the Future in Computer Centers -- The Technical Computer Center at Ford Motor Company," 17/1 (Jan.), 20
- "Foreign-Money Vending Machine Offers Choice of Eight Different Currencies," 17/4 (Apr.), 67
- Forest service, "U.S. Forest Service is Using Computers to Aid Fire Research," 17/3 (March), 50
- Forgeries, "Computer May Help Detect Forgeries of Pricelites Porcelain," 17/7 (July), 47
- "Forks and Computers -- and Serving the Changing World," 17/7 (July), 42
- FORTNAN: "Honeywell States Policy on COBOL and FORTNAN," 17/4 (Apr.), 58
- "TCS Extended FORTNAN," 17/9 (Sept.), 62
- Forum -- see "Multi-Access Forum"
- Foster, John E., "Electronic Devices can Protect Privacy as Well as Inadvertently," 17/5 (May), 15
- "Fototronic-CRT Typesetter," 17/8 (Aug.), 57
- "425 Computer Programs Available," 17/3 (March), 15
- "Four Top Computer Management Officials Form Computer Learning Corp.," 17/2 (Feb.), 44
- "1401 Simulator," 17/9 (Sept.), 62
- "4th Australian Computer Conference, Adelaide, South Australia, 1969 -- Call for Papers," by Dr. G. W. Hill, 17/8 (Aug.), 32
- France, A. M., "Inspiration," Annual Computer Art Contest, 17/8 (Aug.), 11
- Franklin, "Evaluating Computer Training Schools," 17/5 (May), 8
- Fraser University, "Automated Teaching in Biology Saves Money at Fraser University," 17/1 (Jan.), 13
- French computers, "IRIS 50 -- First of Series of New French Computers," 17/11 (Nov.), 48
- "French-USSR Symposium on Automation and Man," 17/5 (May), 15
- Frost, M. J., "Correspondents Found," 17/5 (May), 9
- "Programmer/Correspondent Sought," 17/2 (Feb.), 6
- Fruit trees, "Analog Computer Simulates Fruit Trees to Determine Reactions to Varying Forces," 17/1 (Jan.), 51
- Fry, Bernard M., "American Society for Information Science is Created," 17/1 (Jan.), 13
- Fujino, Koji, Haruki Tsuchiya, and Kamoto Ohgita, "Deformation of Shuraku," Annual Computer Art Contest, 17/8 (Aug.), 25
- "Full ASCII Code Now Available on Data Converters," 17/4 (Apr.), 65
- "The Full Control of Operations in Data Processing," by Russell W. Fenske, 17/4 (Apr.), 17
- Furth, Stephen E., "Automated Retrieval of Legal Information: State of the Art," 17/12 (Dec.), 25
- "The Future of Computer Communications -- and the Small Peripheral Equipment Manufacturers," by Ted Schoeters, 17/4 (Apr.), 48
- GE, "DigNet Series" Is GE's Entry into the Digital Communications Business," 17/1 (Jan.), 58
- GE computer lines, "GE and Systems Capital Corp. Agreement Makes Some GE Computer Lines Available for Long-Term Leasing," 17/2 (Feb.), 44
- GE-405 computer, "GE Unveils Disc-Equipped Version of the GE-405 Computer," 17/7 (July), 51
- GE-100 family adds GE-130, 17/7 (July), 53
- GE-130, "GE-130 Family Adds GE-130," 17/7 (July), 53
- "GE-PACR Management Information System," 17/4 (Apr.), 64
- GE Parts Explosion System, "GE-PEIS (GE Parts Explosion System)," 17/7 (July), 54
- "GE and Systems Capital Corp. Agreement Makes Some GE Computer Lines Available for Long-Term Leasing," 17/2 (Feb.), 44
- "GE Unveils Disc-Equipped Version of the GE-405 Computer," 17/7 (July), 51
- "GEPEIS (GE Parts Explosion System)," 17/7 (July), 54
- "GE's Largest Commercial Time-Sharing Facility Opens in California," 17/12 (Dec.), 60
- "GKI Model 999 Magnetic Tape Cleaner," 17/5 (May), 65
- Gen Engineers Developing Driving Simulator, 17/5 (May), 66
- Gabrieli, E. R., "Open Letter to All Medical Computing Programs," 17/7 (July), 15
- "Game Playing with Computers," by Donald D. Spencer, 17/8 (Aug.), 38
- Games, "Computerized Games Help New York Youngsters Learn How to Run a Store, a Company or a Country," 17/4 (Apr.), 60
- Ganguin, Elsiebeth and Ronald Yearsley, "Converting Staff to a Computer: Two Views," 17/10 (Oct.), 10
- Gas, natural, "Centralized Control of Belgium's Natural Gas Network," 17/5 (May), 54
- Gas supply, "Weather-Conscious Computer Monitors Michigan Gas Supply," 17/10 (Oct.), 58
- GasChrom-8 for Analyzing Data from Multiple Gas Chromatographs," 17/4 (Apr.), 63
- GECENT III Postprocessor System," 17/3 (March), 56
- "GENCO," 17/2 (Feb.), 48
- GEOS III, "General Comprehensive Operating Supervisor III (GEOS III)," 17/1 (Jan.), 57
- General Automation, Inc., "SPC-8, a New General Purpose Computer from General Automation, Inc.," 17/10 (Oct.), 60
- "General Comprehensive Operating Supervisor III (GEOS III)," 17/1 (Jan.), 57
- General Precision Systems Inc., "Singer-General Precision Inc. is New Name for General Precision Systems Inc.," 17/12 (Dec.), 62
- General purpose computer: "The Dec 70, a General Purpose Computer," 17/7 (July), 52
- "BT-1600 -- Low Cost General Purpose Computer Announced by Data Technology," 17/8 (Aug.), 57
- "SPC-8, a New General Purpose Computer from General Automation, Inc.," 17/10 (Oct.), 60
- "General Purpose Contouring Program (GPPC)," 17/8 (Aug.), 58
- General purpose system, "K & M Electronics Announces General Purpose System Available for \$15,000," 17/7 (July), 52
- "General Services Administration Wants More for the United States' Computer Dollars," 17/2 (Feb.), 10
- Generator system, "OPTOMECHANISMS Inc. Markets Hard Copy Generator System for Computer/TV Outputs," 17/9 (Sept.), 62
- Generators, "Program Generators: How Good are They?," by James R. Ziegler, 17/7 (July), 18
- Genier, Henry J., "Interactive Computer Graphics," 17/11 (Nov.), 14
- Geographical code, "A Linear Geographical Code for Management Information Systems," by Jiri Kallab, 17/4 (Apr.), 24
- Georgia state psychologists, "Toys Linked to a Computer Aid Research Work of Georgia State Psychologists," 17/12 (Dec.), 57
- "Ghetto Area Residents to Use Sanders Data Display System in Computer Courses," 17/10 (Oct.), 59
- Giant machines, "Burroughs -- and Giant Machines," by Ted Schoeters, 17/5 (May), 44
- Gigone, James R., "Are Computer People the Tools of Their Tools?," 17/12 (Dec.), 12
- Gildersleeve, James L., "Right Answers," 17/10 (Oct.), 4
- Gillis, Warren K., "Personnel Requirements in Data Processing," 17/9 (Sept.), 24
- Glaser, Robert H., "1968 Fall Joint Computer Conference -- Call for Papers," 17/3 (March), 10
- Gloss memory modules, "Corning Glass Works Introduces Low-Cost Glass Memory Modules," 17/5 (May), 61
- "A Glimpse at the Future in Computer Centers -- The Technical Computer Center at Ford Motor Company," 17/1 (Jan.), 20
- Global safety, "Development of Technology to Produce Global Safety from War, Beginning With Safe Initiatives," by Howard G. Kurtz and Harriet B. Kurtz, 17/5 (May), 14
- "Glossary of Terms for Tape and Transmission Formats, from Tally Corp.," 17/11 (Nov.), 57
- Godwin, Robert B., and the Editor, "Computer Professionals Show Little Awareness of Social Responsibility," 17/9 (Sept.), 11
- "Good Communication Between People, Between Machines, and Between People and Machines -- and Obfuscation," from Robert P. Bigelow, James Peacock, and the Editor, 17/7 (July), 10
- Government contractors, "Computer Service to Aid Government Contractors," 17/4 (Apr.), 61
- Government procurement policies, "In the Background ... Government Procurement Policies, a Computerized Stock Exchange, Continued Sales, and Research for the 'Fifth' Generation," by Ted Schoeters, 17/11 (Nov.), 40
- "Government Seeks New Data on Competition in the Computer Industry," by Stanley Penn, 17/1 (Jan.), 24
- "Grafacom 205-1 Magnetic Tape Digitizing System," 17/2 (Feb.), 50
- Granite Equipment, "Varian Associates and Granite Equipment Have Lease-Marketing Program," 17/9 (Sept.), 59
- "Granite Equipment Leasing Enters Computer Education Field: Also Acquires Transportation Organization," 17/7 (July), 40
- Grapherarts, "A Computerized Photocomposition System of Graphic Arts Quality," by Philip P. Petron, 17/11 (Nov.), 22
- Graphic capabilities, "CRT Display Terminal with Alphabetic and Graphic Capabilities," 17/11 (Nov.), 55
- "Graphic Display Subsystem Provides Digital Deflection Technique," 17/11 (Nov.), 55
- Graphic display unit, "Scientific Data Systems Announces New Graphic Display Unit," 17/5 (May), 64
- Graphical communication, "Improving Man-Computer Graphical Communication Described in New Film," 17/5 (May), 58
- Graphics: "Computer Graphics in Electronic Circuit Design," by J. Robert Logan, 17/11 (Nov.), 28
- "Integrating Computer Graphics," by Henry J. Genier, 17/11 (Nov.), 14
- "Low Cost Graphics," by Murray Rubin, 17/11 (Nov.), 18
- Graphics systems division, "Computer Industries Inc. Has Announced a New Graphics Systems Division," 17/1 (Jan.), 54
- "Graphtek Corporation -- New Software Firm," 17/8 (Aug.), 55
- Great Britain, see "Report from Great Britain"
- see "World Report -- Great Britain"
- see "Worldwide -- Great Britain"
- "Report from Great Britain," by Ted Schoeters, 17/4 (Apr.), 36; 17/5 (May), 39
- "Schoeters from Great Britain," by Ted Schoeters, 17/3 (March), 33
- Greenberg, H. Y., "FEC Inquiry and Applications of Computers," 17/2 (Feb.), 6
- "Greyhound Computer Corp. Has Signed a Major Contract With General Electric Co.," 17/12 (Dec.), 63
- "Greyhound Establishes San Francisco Computer Center," 17/9 (Sept.), 59
- Grocer's business, "An Errant Computer Throws Wholesale Grocer's Business into Turmoil," 17/5 (May), 14
- Grosch, Dr. H.R.J., "Automatic Data Processing Must Deal With Social Problems," Dr. H.R.J. Grosch, 17/7 (July), 15
- Gross national product, "The Market for 'Civil Systems' Will Equal 10% of the Gross National Product in 10 Years -- A Prediction," by Dr. Simon Ramo, 17/11 (Nov.), 11
- "The Growing Crisis in Technical Manpower in the United States," by Arnold R. Deutsch, 17/3 (March), 14
- "Gypsy, Model VI, Claude Shannon, Nimmit and the Mouse," by George A. W. Boehm, 17/1 (Jan.), 49
- H
- HP 2000A system, "Time-Share Costs Cut 90% with New HP 2000A

# Annual Index

- System," 17/7 (July), 51  
 "H632 Computer," (in Annual Pictorial Report), 17/12 (Dec.), 33  
 Haga, Enoch, "Automating Better Education," 17/11 (Nov.), 4  
 Haga, Enoch J., and the Editor, "Proof Goofs and Proofreading Errors -- Comments," 17/11 (Nov.), 12  
 Haller, D. B., "Timely Information," 17/9 (Sept.), 4  
 Hammersmith, Alan G., "Selecting a Vendor of Time-Shared Computer Services," 17/10 (Oct.), 16  
 Hamming, Richard W., "Although Computers Can Do Only What They are Told to Do, It is Not Possible Practically to Foresee all of the Consequences," 17/8 (Aug.), 32  
 "Handling Small Area Data With Computers," by Richard S. Hanel, 17/12 (Dec.), 16  
 "Hands on Contact With a Computer for Young People -- Announcement," 17/4 (Apr.), 14  
 Hanel, Richard S., "Handling Small Area Data With Computers," 17/12 (Dec.), 16  
 Hard-core unemployed, "RCA Discloses Programs to Hire and Train Hard-Core Unemployed," 17/7 (July), 49  
 Hardware: "Separate Pricing for Hardware and Software," by Richard C. Jones, 17/7 (July), 12  
 "Third Generation Hardware -- First Generation Applications," by Robert F. Trocchi, 17/9 (Sept.), 28  
 Harmon, George H., "Microfilm Combined with Computer for Information Handling," 17/11 (Nov.), 36  
 Harrison, James E., "Any Protests and Objections to Computers Should be Directed at the Men Who Use Them, Not at the Computers," 17/1 (Jan.), 10  
 Hartman, Van A., "Computer Training Schools," 17/10 (Oct.), 4  
 Haufmann, Martin, and the Editor, "Automation and the Proposed Minimum Annual Income: Subject for Debate," 17/2 (Feb.), 11  
 Haupt, W. Preston, "Problems," 17/1 (Jan.), 8  
 Hazen, Carroll A., "What is a 'Systems Analyst'?", 17/11 (Nov.), 13  
 Heart disease, "Computers Play a Major Role in Massive Heart Disease Study," 17/1 (Jan.), 52  
 Heat shields, "IBM Computer Helps Century-Old Machine Turn Out Heat Shields for Astronauts," 17/2 (Feb.), 43  
 Hegana, William P., "Buying ... and Selling ... Computer Time," 17/9 (Sept.), 32  
 Hendricks, (Mrs.) Leigh, "Whirlpool," Annual Computer Art Contest, 17/8 (Aug.), 18  
 Hereditary diseases, "Computer Analysis of Chromosomes Speeds Research into Hereditary Diseases," 17/7 (July), 45  
 Herwitz, Dr. Paul S., "The Changing Nature of Programming," 17/1 (Jan.), 27  
 "Hewlett-Packard Computer Under \$10,000 -- Has 16-Bit Word Length," 17/7 (July), 53  
 "Hewlett-Packard Model 9100A Calculator," 17/5 (May), 62  
 Hewlett-Packard's 2116 series computers, "New Core Stacks Double Memory Size in Hewlett-Packard's 2116 Series Computers," 17/11 (Nov.), 49  
 High schools, "Computers in High Schools -- a 'Hands On' Approach," by Joan K. Fine, 17/3 (March), 26  
 Hill, Dr. G. W., "4th Australian Computer Conference, Adelaide, South Australia, August 1969 -- Call for Papers," 17/8 (Aug.), 32  
 "Home Improvement Loan Accounting System," 17/5 (May), 62  
 Home Testing Institute/TVU, Inc., "Computer Applications Inc. Purchases Home Testing Institute/TVU, Inc.," 17/2 (Feb.), 44  
 Homer, "Computer Answers Question -- 'Did Homer Write Both the Iliad and the Odyssey?'," 17/4 (Apr.), 37  
 Honeywell: "Computers Create Electronic Ocean at Honeywell Lab," 17/8 (Aug.), 53  
 "Integrated Circuit Keyboard from Honeywell," 17/11 (Nov.), 54  
 "New X-Y Recorder by Honeywell," 17/10 (Oct.), 64  
 "Honeywell Adds High-Speed Drums for Mass Storage to Its Product Line," 17/9 (Sept.), 61  
 "Honeywell Announces DDP-324 Computer," 17/4 (Apr.), 62  
 "Honeywell Announces the Model 110 -- Smallest in Series 200 Family," 17/3 (March), 56  
 "Honeywell Announces Ruggedized Computer, DDP-516," 17/5 (May), 60  
 "Honeywell Division Announces New Computer Family," 17/7 (July), 52  
 "Honeywell Enters Off-Line Data Preparation Market With New Keypunch Devices," 17/3 (March), 57  
 "Honeywell -- the other Computer Company," by Ted Schoeters, 17/9 (Sept.), 50  
 "Honeywell States Policy on COBOL and FORTRAN," 17/4 (Apr.), 50  
 Hopper, Dr. Grace M., "Compiling Routines," 17/3 (March), 45  
 "HOSPACT," 17/4 (Apr.), 64  
 Hospitals, "Blue Cross of Central Ohio Creates Computer Center Service for Hospitals," 17/5 (May), 59  
 "Houston Instrument Introduces New Digital Plotter," 17/5 (May), 63  
 "How to Choose and Use an EDP Service Bureau," 17/3 (March), 10  
 "How to Live With a Union -- Peacefully and Profitably," by A. A. Imberman, 17/4 (Apr.), 32  
 "How to Obfuscate, and How Not to," by Edmund C. Berkeley, 17/5 (May), 7  
 "How to Spoil One's Mind -- as Well as One's Computer," by Edmund C. Berkeley, 17/8 (Aug.), 6  
 "How to Spoil One's Mind -- As Well as One's Computer" -- Some Comments, from C. W. Chamberlain, M.D., 17/12 (Dec.), 8  
 "How to Spoil One's Mind -- As Well as One's Computer" -- Some Comments, from the Editor, 17/12 (Dec.), 8  
 "How to Spoil One's Mind -- As Well as One's Computer" -- Some Comments, from Robert F. Utter, 17/12 (Dec.), 8  
 "How to Spoil One's Mind -- As Well as One's Computer" -- Some Comments, from Robert W. Trewn, 17/12 (Dec.), 8  
 "How to Spoil One's Mind -- As Well as One's Computer" -- Some Comments, from S. G. Topham, 17/12 (Dec.), 8  
 "How to Talk About Computers," by Rudolf Flesch, 17/5 (May), 50  
 Homnet Corp., "MICR Tape Developed by Division of Homnet Corp.," 17/3 (March), 58  
 Human augmentation, "Teleoperators and Human Augmentation," by Edwin G. Johnson and William R. Corliss, 17/7 (July), 10  
 "The Human Computer, Mr. William Klein, 17/4 (Apr.), 13  
 Human decision-making, "Aspects of Human Decision-Making," by Dr. D. E. Broadbent, 17/5 (May), 30  
 Humble Oil, "Computer is Operating Drilling Rig for Humble Oil," 17/2 (Feb.), 43  
 "Huntingbird," by Kerry Strand and Gary Craiglike, Annual Computer Art Contest, 17/8 (Aug.), 18  
 Hurtubise, R. A., "Simulation," 17/3 (March), 8  
 Hutchings, Charles, "Computers and Education," 17/7 (July), 4  
 "Computers and Education," 17/8 (Aug.), 4  
 Hybrid computers, "Characteristics of General Purpose Analog and Hybrid Computers," 17/6 (June), 136  
 "Optimization of a Nuclear Power Plant by Hybrid Computer," by Joseph J. Kovacs, 17/7 (July), 26  
 IBM: "Computer Helps Test Computers at IBM Manufacturing Plant," 17/5 (May), 55  
 "SCAN Instrument Announces Licensing Agreement with IBM, Licensing of Westinghouse," 17/7 (July), 47  
 "Self-Seal" Package Used by IBM to Mail Cards for Computers, 17/4 (Apr.), 66  
 "IBM Adds Model 25 To System/360," 17/2 (Feb.), 46  
 "IBM Announces Powerful System/360, Model 85," 17/3 (March), 55  
 IBM computer: "Arizona 'Prospector' Uses IBM Computer to Search Globe for Precious Metals," 17/8 (Aug.), 53  
 "Custom-Made School Lessons Provided by IBM Computer," 17/3 (March), 54  
 "Portland Engineers See into 21st Century With Help of IBM Computers," 17/8 (Aug.), 53  
 "Putnam Mutual Funds Uses IBM System to Feed Up-to-the-Minute 'Information,' 17/10 (Oct.), 58  
 "IBM Computer Helps Century-Old Machine Turn Out Heat Shields for Astronauts," 17/2 (Feb.), 43  
 IBM Corporation, "Computer Display Station for Small, Remote Offices Announced by IBM Corporation," 17/4 (Apr.), 65  
 "IBM Introduces Low-Cost Banking System," 17/5 (May), 61  
 "IBM Introduces Lowest-Cost System/360," 17/5 (May), 60  
 "IBM Machine Reads Full Pages Directly into Computer," 17/9 (Sept.), 64  
 "IBM 1130, 'Scientists at Renaissance Polytechnic Institute Link IBM 1130 with NYU's CDC 6600,' 17/5 (May), 65  
 "IBM 1130 computer, 'Interface System for Use With IBM 1130 Computer from Time Sharing Associates,' 17/2 (Feb.), 50  
 "IBM Opens Japanese Education Center," 17/7 (July), 50  
 IBM Electronics, "Breakthrough on Technical Symbols for IBM Selectrics," 17/5 (May), 64  
 IBM system 360, "Three More IBM System 360 Models are Now on 'Limited' New Production," 17/11 (Nov.), 58  
 "IBM Technician Has \$75,000 Idea," IBM Corp., 17/12 (Dec.), 53  
 IBM 360 computer, "Fast New Tape Reader Feeds IBM M15/T Tape Cartridge Into IBM 360 Computer in 15 Seconds," 17/9 (Sept.), 64  
 "IBM 2680 CRT Printer Sets Type Six Times Faster," 17/1 (Jan.), 58  
 "IBM Withdraws Previously Announced Charge Adjustments for Maintaining DP Equipment," 17/12 (Dec.), 62  
 IC-4000, "Standard Computer Corp. Announces New IC-4000," 17/5 (May), 60  
 "IC-4000 Computer" (in Annual Pictorial Report), 17/12 (Dec.), 32  
 IC-6000, "Standard Computer Offering IC-6000 System to U.S. College and University Researchers," 17/5 (May), 56  
 ICES, "Integrated Civil Engineering System (ICES) for Programming -- Non-Proprietary," 17/4 (Apr.), 10  
 "ICP Quarterly Catalog of Computer Programs Adds Three New Sections," 17/12 (Dec.), 62  
 "ICS Extended FORTRAN," 17/9 (Sept.), 62  
 I.C.T. computer, "School to Teach Biology Using I.C.T. Computer," 17/9 (Sept.), 58  
 "IEEE Technical Committee on Computer Peripheral Equipment Seeks Volunteers," by Edwin I. Blumenthal, 17/11 (Nov.), 13  
 IFIP Congress, "Winning Entries in the IFIP Congress Computer-Composed Music Competition," 17/7 (July), 17  
 IFIP Congress '68, "Queen Elizabeth II is Patron of IFIP Congress '68," 17/7 (July), 55  
 "IFIP Congress 1968 Program," 17/4 (Apr.), 13  
 "IKOR's New Approach To Keyboards Reduces Coding Errors," 17/1 (Jan.), 60  
 "IMP," 17/9 (Sept.), 62  
 "IMPEL Insurance Management Performance Evaluation, Life)," 17/7 (July), 54  
 "IRIS 50 -- First of Series of New French Computers," 17/11 (Nov.), 48  
 "ISI Introduces Low-Cost Medium-Capacity Memory Systems," 17/11 (Nov.), 52  
 "ISIS (Instant Sales Indicator System)," 17/9 (Sept.), 62  
 "ITT Division Inaugurates 3rd Generation Time-Sharing Service in New England," 17/7 (July), 50  
 "Idealized Brush Strokes," by Dr. Evan Harris Walker, Annual Computer Art Contest, 17/8 (Aug.), 14  
 Ideas, "Remote Batch Processing and Other Good New Ideas in the Computer Field," by Edmund C. Berkeley, 17/10 (Oct.), 6  
 IDEAS: SPOTLIGHT: 17/12 (Dec.), 53  
 "Although Computers Can Do Only What They are Told to Do, It is Not Possible Practically to Foresee all of the Consequences," by Richard W. Hamming, 17/8 (Aug.), 32  
 "Both 'Encyclopedic, Tutorial' and 'Information-Dispensing' Information Retrieval Systems Should Receive Emphasis," by Manfred Kochen, 17/11 (Nov.), 20  
 "Forks and Computers -- and Serving the Changing World," 17/7 (July), 42  
 "Mind Stretching," 17/2 (Feb.), 29  
 "Our Limited Ability to Understand and to Specify," 17/3 (March), 42  
 "Successful Machine Translation through Semantic 'Understanding' by the Machine," by John R. Pierce, 17/9 (Sept.), 20  
 "There is a Crying Need for Improvement in the Technique of Education," by Dick H. Brandon, and "Computer-Assisted Instruction Is Expanding," 17/1 (Jan.), 40  
 "The Value of Swift Knowing of New Knowledge," by Frank J. Moran, 17/4 (Apr.), 53  
 Illiad, "Computer Answers Question -- 'Did Homer Write Both the Iliad and the Odyssey?'," 17/4 (Apr.), 37  
 Imaging, "Columbia's SF-100 Ribbon Provides Improved Imaging," 17/9 (Sept.), 64  
 Imberman, A. A., "How to Live With a Union -- Peacefully and Profitably," 17/4 (Apr.), 32  
 "Immediate Nationwide Information About Job Vacancies in England," 17/1 (Jan.), 11  
 "The Impact of Data-Processing Technology on the Legal Profession," by Vaughn C. Ball, 17/4 (Apr.), 43  
 "The Impact of Digital Computers Upon Steel Works Operations," by M. E. Miller, 17/7 (July), 22  
 Improper uses of power of computer, "Repeated Warnings That Something Must Be Done to Curb Improper Uses of the Power of the Computer," 17/12 (Dec.), 63  
 "Improving Man-Computer Graphical Communication Described in New Film," 17/5 (May), 58  
 "In Favor of Merging Two Societies That Supplement Each Other," by C. M. Rollins, 17/4 (Apr.), 10  
 "In the Background ... Government Procurement Policies, a Computerized Stock Exchange, Continued Sales, and Research for the Fifth Generation," by Ted Schoeters, 17/11 (Nov.), 40  
 Income, "Automation and the Proposed Minimum Annual Income: Subject for Debate," from Martin Haufmann and the Editor, 17/2 (Feb.), 11  
 "Indel Inc. Introduces New Computer Tape Rewinder," 17/9 (Sept.), 64  
 Index, "Annual Index for Volume 16, 1967 of Computers and Automation," 17/1 (Jan.), 29  
 "Indiana General Introduces New Molded Memory Plane," 17/2 (Feb.), 47  
 "Industrial Education," from Dr. Willard Korn, 17/12 (Dec.), 4  
 Industry, "Innovation in Teaching -- Why Industry Leads the Way," by Nate A. Newkirk, 17/10 (Oct.), 45  
 "Informatics to Co-Sponsor Nurex Symposium with UCLA," 17/3 (March), 59  
 Information, "Timely Information," from D. B. Haller, 17/9 (Sept.), 4  
 Information-dispensing, "Both 'Encyclopedic, Tutorial' and 'Information-Dispensing' Information Retrieval Systems Should Receive Emphasis," by Manfred Kochen 17/11 (Nov.), 20  
 Information display systems, "Visual Information Display Systems, from U. S. Government," 17/11 (Nov.), 57  
 Information Engineering, "Documentary Evidence for Court Case Organized by Computer at Information Engineering," 17/2 (Feb.), 42  
 Information handling, "Microfilm Combined with Computer for Information Handling," by George H. Harmon, 17/11 (Nov.), 36  
 Information processing congress, "International Federation for Information Processing Congress -- Edinburgh, Scotland, August 4-10, 1968 -- Some Highlights," by Edmund C. Berkeley, 17/9 (Sept.), 10  
 Information records, "UNIVAC Develops New 'File-Card' and Method of Processing Information Records," 17/5 (May), 66  
 Information retrieval systems, "Both 'Encyclopedic, Tutorial' and 'Information-Dispensing' Information Retrieval Systems Should Receive Emphasis," by Manfred Kochen, 17/11 (Nov.), 20  
 Information science: "American Society for Information Science," 17/11 (Nov.), 13  
 "Ohio State To Grant Degrees in the Field of Computer and Information Science," 17/2 (Feb.), 45  
 Information Storage, Inc., "ISI Introduces Low-Cost Medium-Capacity Memory Systems," 17/11 (Nov.), 52  
 Information system, "Banker-Ramo Offers New BR-700 Information System," 17/5 (May), 63  
 Infotechs Inc., "Random Access Memories from Infotechs Inc.," 17/10 (Oct.), 62  
 "Innovation in Teaching -- Why Industry Leads the Way," by Nate A. Newkirk, 17/10 (Oct.), 45  
 "Inspiration," by A. M. France, Annual Computer Art Contest, 17/8 (Aug.), 11  
 Installations -- see "New Installations"  
 Instant sales indicator system, "ISIS (Instant Sales Indicator System)," 17/9 (Sept.), 62  
 Instruction: "Computer-Assisted Instruction Is Expanding," 17/1 (Jan.), 40  
 "Roster of Commercial Organizations Offering Courses, Training, or Instruction in Computing, Programming or Systems," 17/6 (June), 73  
 "University of Texas Advances Research in Computer-Assisted Instruction," 17/3 (March), 54  
 Instruction centers and laboratories, "Roster of Computer-Assisted Instruction Centers and Laboratories," 17/6 (June), 135  
 Instrument Society of America, "New Instrument Symbols & Identification Standard Issued by the Instrument Society of America," 17/7 (July), 55  
 Instrument symbols & identification standard, "New Instrument Symbols & Identification Standard Issued by the Instrument Society of America," 17/7 (July), 55  
 Insurance, "No. Carolina Insurance Firm Offers On-Line Service for Savings & Loan Associations," 17/12 (Dec.), 60  
 Insurance Management Performance Evaluation, Life, "IMPEL Insurance Management Performance Evaluation, Life)," 17/7 (July), 54  
 "Integrated Circuit Keyboard from Honeywell," 17/11 (Nov.), 54  
 Integrated circuit logic, "Medium-Scale Integrated Circuit Logic Featured in New Magnafile Drum Memory," 17/8 (Aug.), 58



# Annual Index

- "Integrated Civil Engineering System (ICES) for Programming -- Non-Proprietary," 17/4 (Apr.), 10
- "Interactive Computer Graphics," by Henry J. Genthner, 17/11 (Nov.), 14
- "An Interactive Programming System for the Casual User," by Morton I. Bernstein and Thomas G. Williams, 17/2 (Feb.), 26
- "An Inter-City, Multi-Access Time-Sharing Computer System," by Grant N. Boyd, 17/12 (Dec.), 21
- "Interface System for Use With IBM 1130 Computer from Time Sharing Associates," 17/2 (Feb.), 50
- "International Group for Administrative Data Processing Is Formed," 17/1 (Jan.), 13
- "International Joint Conference on Artificial Intelligence -- Call for Papers," by Dr. Donald E. Walker, 17/10 (Oct.), 13
- "International Joint Conference on Artificial Intelligence, May 1969," Calls for Papers, 17/12 (Dec.), 13
- "International Federation for Information Processing Congress -- Edinburgh, Scotland, August 4-10, 1968 -- Some Highlights," by Edmund C. Berkeley, 17/9 (Sept.), 10
- "Intra-Frame Jumper" (in Annual Pictorial Report), 17/12 (Dec.), 40
- Inventory control, "Credit and Inventory Control System for Retail Store Management," 17/11 (Nov.), 50
- "Iowa Colleges Plan \$1.2 Million Regional Computer Network," 17/9 (Sept.), 59
- "Iris 50" (in Annual Pictorial Report), 17/12 (Dec.), 32
- "Is the Computer an Artist's Paintbrush?" by Daniel T. Langdale, 17/8 (Aug.), 31
- "Is a Job Change Really Necessary?" from Source EDP, 17/5 (May), 47
- Israel, "Scientific Data Systems Negotiating to Establish Peripheral Equipment Company in Israel," 17/5 (May), 56
- "Italy's First Commercial Time-Sharing Service Is Opened by Olivetti-GE," 17/7 (July), 50
- "Itek-Selcons Agree to Merge," 17/8 (Aug.), 55
- "Japanese Computer Industry Is Growing Rapidly," based on a report in the *Mainichi Daily News*, Tokyo, Japan, June 5, 1968, 17/8 (Aug.), 31
- Japanese education center, "IBM Opens Japanese Education Center," 17/7 (July), 50
- Japanese firm, "Burroughs Finalizes Agreement with Japanese Firm for the Manufacture of Calculators," 17/5 (May), 56
- "Japan's Foreign Investment Council Approves License Agreement Between Nippon Calculating Machine Co. and Nyle Laboratories," 17/1 (Jan.), 54
- Jenkins, Larry, Kerry Strand, and Gary Craigie, "Flexus," Annual Computer Art Contest, 17/8 (Aug.), 15
- Job, "Is a Job Change Really Necessary?" from Source EDP, 17/5 (May), 47
- Job vacancies, "Immediate Nationwide Information About Job Vacancies in England," 17/1 (Jan.), 11
- JOBS AND CAREERS IN DATA PROCESSING, 17/10 (Oct.), 54; 17/12 (Dec.), 50
- "The Changing Nature of Programming," by Dr. Paul S. Herwitz, 17/1 (Jan.), 21
- "Computer Training for the Disadvantaged," by Sherry Langdale, 17/11 (Nov.), 39
- "Computers Open New Path to Rapid Promotions in Business," by Greg Zenner, 17/2 (Feb.), 35
- "Is a Job Change Really Necessary?" from Source EDP, 17/5 (May), 47
- "Long-Range Planning in Personnel: The Impact of the Computer," by Charles A. Morrissey, 17/7 (July), 40
- "The Ten-Mile Gap -- Part 1: The Problem," by Stephen F. Keating, 17/3 (March), 41
- "The Ten-Mile Gap -- Part 2: Solutions," by Stephen F. Keating, 17/4 (Apr.), 52
- Johnson, Edwin G., and William R. Corliss, "Teleoperators and Human Augmentation," 17/7 (July), 16
- Jones, Richard C., "Programs and Software Should be Patentable," 17/3 (March), 11
- "Separate Pricing for Hardware and Software," 17/7 (July), 12
- Jonker Corp. Tech., "Data Processor Connects Needs with Resources During Aftermath of Washington Civil Disorders," 17/7 (July), 15
- "JOSS," from Shirley Marks, and R. Lawrence Clark, 17/12 (Dec.), 4
- Josselson, Harry H., "Machine Translation in Review," 17/8 (Aug.), 44
- KDI Corporation Acquires 3 Companies," 17/9 (Sept.), 57
- "K & M Electronics Announces General Purpose System Available for \$15,000," 17/7 (July), 52
- Kallab, Jiri, "A Linear Geographical Code for Management Information Systems," 17/4 (Apr.), 24
- Katz, W. A., "Library Selection Guide," 17/4 (Apr.), 9
- Keating, Stephen F., "The Ten-Mile Gap -- Part 1: The Problem," 17/3 (March), 41
- "The Ten-Mile Gap -- Part 2: Solutions," 17/4 (Apr.), 52
- "Keeping Up With Reading," from Margaret Milligan, 17/4 (Apr.), 9
- Kemmer, Kenneth W., "CAUM Comments," 17/7 (July), 4; 17/8 (Aug.), 4
- Ken Cook Co., "Computer Speeds Publishing at Ken Cook Co.," 17/4 (Apr.), 58
- Keyboard, "Keycode KN-14 Pre-assembled Keyboard," 17/7 (July), 54
- Keyboard input, "Computer-Controlled Keyboard Input from Computer Machinery Corp.," 17/11 (Nov.), 54
- Keyboards, "IKOR's New Approach to Keyboards Reduces Coding Errors," 17/1 (Jan.), 60
- "Keycode KN-14 Pre-assembled Keyboard," 17/7 (July), 54
- "Keychain Performance System," 17/12 (Dec.), 31
- Keytype devices, "Honeywell Enters Off-Line Data Preparation Market With New Keytype Devices," 17/3 (March), 57
- Klein, Mr. William, "The Human Computer," Mr. William Klein, 17/4 (Apr.), 61
- Knowledge, "The Value of Swift Knowing of New Knowledge," by Frank J. Moran, 17/4 (Apr.), 53
- "Kodak's CAPAL System Placed in Research Project Service with 3-County Group of Upstate NY Schools," 17/4 (Apr.), 59
- Komura, Masao, and Haruki Tsuchiya, "Star Kennedy," Annual Computer Art Contest, 17/8 (Aug.), 16
- Komura, Masao, and Kunio Yamakawa: "Return to Square," Annual Computer Art Contest, 17/8 (Aug.), 17
- "Unpublished Collection," Annual Computer Art Contest, 17/8 (Aug.), 26
- Korn, Dr. Willard, "Industrial Education," 17/12 (Dec.), 4
- Kountz, John C., "Comments on Computers and Automation," 17/5 (May), 9
- Kovacs, Joseph J., "Optimization of a Nuclear Power Plant by Hybrid Computer," 17/7 (July), 26
- Krueger, Dr. Robert W., "Systems Analysis, Computers, and the Future of Professional Services," 17/7 (July), 34
- Krupp minority, "NCR Acquires Krupp Minority Holding in German Company," 17/3 (March), 51
- Kuch, T.D.C., "Proof Goofs," 17/12 (Dec.), 14
- Kurtz, Harriet B., and Howard G. Kurtz, "Development of Technology to Produce Global Safety from War, Beginning With Safe Initiatives," 17/5 (May), 14
- Kurtz, Howard G., and Harriet B. Kurtz, "Development of Technology to Produce Global Safety from War, Beginning With Safe Initiatives," 17/5 (May), 14
- Kusel, I. J., "Verification of Computer Directory Information," 17/8 (Aug.), 30
- "Kybe Corporation Is New Name for Cytronics, Inc.," 17/11 (Nov.), 58
- La Londe, Louise, "Who's Who," 17/2 (Feb.), 7
- Laboratory for Electronics, "Cook Electric Company and Laboratory for Electronics Agree to Merge," 17/2 (Feb.), 45
- "Labyrinth in Motion," by Peter Milojevic, Annual Computer Art Contest, 17/8 (Aug.), 10
- Lancaster, D. M., "Subscription Management," 17/5 (May), 8
- Langdale, Daniel T., "Is the Computer an Artist's Paintbrush?" 17/8 (Aug.), 31
- Langdale, Sherry, "Computer Training for the Disadvantaged," 17/11 (Nov.), 39
- "Sixth Annual Computer Art Contest of Computers and Automation," 17/8 (Aug.), 8
- Languages, "Roster of Programming Languages -- 1968," by Jean E. Summet, 17/6 (June), 129
- "Standardizing Input Languages: Call for Opinions," 17/4 (Apr.), 67
- Larsen, Sven A., "Computer Training in Private Schools," 17/3 (March), 22
- "Needed: Peopleware," 17/12 (Dec.), 50
- Las Vegas, "ACM 1968 National Conference and Exposition to be Held in Las Vegas," 17/7 (July), 55
- "Law and Computer Technology," from Vaughn C. Ball, 17/7 (July), 4; 17/8 (Aug.), 4
- "The Law of Software -- 1st Annual Conference," 17/10 (Oct.), 66
- "Leasco Begins Operations in Europe -- to Lease Computers in Five Countries," 17/3 (March), 51
- "Leasco Reports Income Rise for Fiscal 1968," 17/2 (Feb.), 51
- Leasing, "Roster of Organizations in Leasing or Financial Services in the Computer Field," 17/6 (June), 88
- Leasing agreement, "Digital Equipment Offering Leasing Agreement to Schools," 17/5 (May), 56
- Lease-marketing program, "Varian Associates and Granite Equipment Have Lease-Marketing Program," 17/9 (Sept.), 57
- "Leeds & Northrup LN5000 Digital Computer System for Process Control," 17/8 (Aug.), 56
- Legal information, "Automated Retrieval of Legal Information: State of the Art," by Stephen E. Furth, 17/12 (Dec.), 25
- Legal profession, "The Impact of Data-Processing Technology on the Legal Profession," by Vaughn C. Ball, 17/4 (Apr.), 43
- "Legislative Reference Service," from Barnis Walker, 17/5 (May), 8
- LETTERS TO THE EDITOR: 17/1 (Jan.), 8; 17/2 (Feb.), 6; 17/3 (March), 8; 17/4 (Apr.), 9; 17/5 (May), 8; 17/7 (July), 4; 17/8 (Aug.), 4; 17/9 (Sept.), 4; 17/10 (Oct.), 4; 17/11 (Nov.), 4; 17/12 (Dec.), 4
- "Lever Brothers Forming Data Processing Subsidiary," 17/10 (Oct.), 67
- Library loan system, "Computerized 'Instant' Library Loan System Designed at Bell Laboratories," 17/3 (March), 49
- "Library Selection Guide," from W. A. Katz, 17/4 (Apr.), 9
- "Librascope's New Optical Shaft Encoders," 17/10 (Oct.), 65
- "Lindy Star," by L. David Anderson, Annual Computer Art Contest, 17/8 (Aug.), 25
- "A Linear Geographical Code for Management Information Systems," by Jiri Kallab, 17/4 (Apr.), 24
- "Linking Computers -- Correction," from Robert W. Martin, 17/9 (Sept.), 4
- List, Robert A., "Numbers," 17/12 (Dec.), 4
- Literature service, "Share Research Corp. Offers Scientific Literature Service," 17/11 (Nov.), 56
- Loan accounting system, "Home Improvement Loan Accounting System," 17/5 (May), 62
- Lockheed Electronics, "Multiple Application Computer from Lockheed Electronics," 17/11 (Nov.), 49
- "Use Microsecond Core Memory by Lockheed Electronics," 17/11 (Nov.), 52
- "Locked Offers Magnetic Tape Memory Reader," 17/4 (Apr.), 65
- Logan, J. Robert, "Computer Graphics in Electronic Circuit Design," 17/11 (Nov.), 28
- Logic Corp., "New Data Entry System Speeds Up Input and Reduces Cost," 17/11 (Nov.), 55
- Logic trainer, "DIGIAC 301000, a Digital Logic Trainer," 17/3 (March), 35
- Long, Sen, Edward V., "Senator Comments," 17/5 (May), 9
- "What the United States Government Knows About its Citizens," 17/3 (March), 32
- "Long-Range Planning in Personnel: The Impact of the Computer," by Charles A. Morrissey, 17/7 (July), 40
- Los Angeles, "Prospects in Municipal Information Systems: The Example of Los Angeles," by Takuji Tamaru, 17/1 (Jan.), 15
- "Low Cost Computerized Marketing Service for Manufacturers," 17/12 (Dec.), 38
- "Low Cost Graphics," by Murray Rubin, 17/11 (Nov.), 18
- Low-cost machine, "Dynamics Research Corp. Enters Computer Market with Low-Cost Machines," 17/10 (Oct.), 60
- "Low Speed Tape Reader Produced by Decitek," 17/9 (Sept.), 64
- Lynch, "Data Sets from Lynch are Fully 'Compatible' with Western Electric Counterparts," 17/11 (Nov.), 54
- "MACS Announces Acquisition of Computer Tape Firm," 17/9 (Sept.), 27
- "MDM-X Digital Computer Memory," 17/8 (Aug.), 58
- "MDP-1000 Digital Computer" (in Annual Pictorial Report), 17/12 (Dec.), 35
- "MDP-1000 Document Reader" (in Annual Pictorial Report), 17/12 (Dec.), 45
- MICR Tape Developed by Division of Homnet Corp., 17/3 (March), 58
- NPK, "Multiple Page Keyboard (MPK) Announced by Philco," 17/9 (Sept.), 62
- "M-200 Disc Memory" (in Annual Pictorial Report), 17/12 (Dec.), 35
- Macdonald, Neil: -- see "Book Reviews"
- see "Book Reviews and Notices"
- see "Books and Other Publications"
- see "Numbers"
- see "Proof Goofs"
- "Book Reviews and Notices," 17/8 (Aug.), 70
- "Books and Other Publications," 17/5 (May), 73
- "The Flood of Automatic Computers," 17/12 (Dec.), 52
- "Number Puzzles for Nimble Minds -- and Computers," 17/10 (Oct.), 14
- "Numbers," 17/12 (Dec.), 28
- "Proof Goofs," 17/10 (Oct.), 50
- 17/12 (Dec.), 15
- "Machine-Generated Speech for Use with Computers, and the Problem of Fitting a Spoken Word into One Half Second," by W. D. Van Gorp, Jr., and W. D. Chapman, 17/11 (Nov.), 31
- Machine translation, "Successful Machine Translation through Semantic 'Understanding' by the Machine," by John R. Pierce, 17/9 (Sept.), 20
- "Machine Translation in Review," by Harry H. Josselson, 17/8 (Aug.), 44
- "MAGIC," 17/10 (Oct.), 62
- Magnafile drum memory, "Medium-Scale Integrated Circuit Logic Featured in New Magnafile Drum Memory," 17/8 (Aug.), 58
- Magnetic computer tape, "Mini-reels of Magnetic Computer Tape Available from Audio Devices," 17/2 (Feb.), 51
- Magnetic discs, "Smoother Surfacted Magnetic Discs Introduced by Data Disc, Inc.," 17/1 (Jan.), 56
- "Magnetic Drum Memory System" (in Annual Pictorial Report), 17/12 (Dec.), 38
- "Magnetic 'Flow Chart' Kits by National Cybernetics," 17/10 (Oct.), 65
- "Magnetic-Ledger Storage Capacity of Series 500 Increased by NCR," 17/5 (May), 51
- Magnetic tape, "Audio Devices New Audex K-66 Magnetic Tape," 17/2 (Feb.), 51
- Magnetic tape digitizing system, "Drafix 205-Magnetic Tape Digitizing System," 17/2 (Feb.), 50
- Magnetic tape memory reader, Lockheed Offers Magnetic Tape Memory Reader," 17/4 (Apr.), 65
- Magnetic tape transport, "Control Data Develops High Performance Magnetic Tape Transport," 17/1 (Jan.), 59
- Mail codes, "Authors' Addresses Including Mail Codes," 17/2 (Feb.), 13
- Mailing lists, "Access to Information and a Mailing List of All Computer People," by Edmund C. Berkeley, 17/1 (Jan.), 6
- "Access to Information and a Mailing List of All Computer People -- 11," by Edmund C. Berkeley, 17/4 (Apr.), 7
- Mainichi Daily News, "Japanese Computer Industry Is Growing Rapidly," 17/8 (Aug.), 31
- Maintaining DP equipment, "IBM Withdraws Previously Announced Charge Adjustments for Maintaining DP Equipment," 17/12 (Dec.), 62
- Major contract signed, "Greyhound Computer Corp. Has Signed a Major Contract With General Electric Co.," 17/12 (Dec.), 63
- Majority vote, "A Digital Computer With Automatic Self-Repair and Majority Vote," by Dr. Avi-Levi, 17/5 (May), 62
- "MANAGES," 17/5 (May), 62
- Management, "Program Reporting and Information Systems for Management (PRISM)," 17/9 (Sept.), 62
- Management of information systems: The Concept of the "Data Analysis and Control Catalog" for Management Information Systems," by William B. Stevens, 17/4 (Apr.), 40
- "A Linear Geographical Code for Management Information Systems," by Jiri Kallab, 17/4 (Apr.), 24
- "Management Systems for Medical Data from Sanders," 17/11 (Nov.), 30
- Manipulators, "Remote-Controlled Manipulators Studied for Use in Building, Repairing, Maintaining Satellites in Space," 17/12 (Dec.), 61
- Mann, Roland, "Proof Goofs," 17/12 (Dec.), 14
- "March of Polygons," by Haruki Tsuchiya, Annual Computer Art Contest, 17/8 (Aug.), 22
- Man-computer graphical communication, "Improving Man-Computer Graphical Communication Described in New Film," 17/5 (May), 58
- Manpower, "The Growing Crisis in Technical Manpower in the United States," by Arnold R. Deutsch, 17/3 (March), 14
- "The Market for 'Civil Systems' Will Equal 10% of the Gross National Product in 10 Years -- a Prediction," by Dr. Simon Ramo, 17/11 (Nov.), 31
- Market report: -- see "Computer Market Report"
- "Control Data Corporation Files Increasingly Important Role

# Annual Index

- in World Computer Market," by Ted Schoeters, 17/2 (Feb.), 20
- "Government Seeks New Data on Competition in the Computer Industry," by Stanley Penn, 17/1 (Jan.), 24
- Marketing services, "Low Cost Computerized Marketing Service for Manufacturers," 17/12 (Dec.), 59
- Marks, Shirley, "JOSS," 17/12 (Dec.), 4
- "Marquardt Corp. Has Entered Computer Time-Sharing Field," 17/12 (Dec.), 60
- Martin, H. G., "Computer Art Reports," 17/11 (Nov.), 4
- Martin, Robert W., "Linking Computers -- Correction," 17/9 (Sept.), 4
- Mason, Vaughan S., "Christmas Wreath -- Computer Style," Annual Computer Art Contest, 17/8 (Aug.), 18
- Massachusetts, "Unemployment Checks Prepared 'On-the-Spot' for Waiting Claimants in Massachusetts Program," 17/1 (Jan.), 53
- Mass, General Hospital, "Computer Questions Patients at Mass, General Hospital," 17/7 (July), 47
- "Master Translator" Permits Automated Business Machines to "Talk" Together, 17/9 (Sept.), 63
- Materials, "CMAP (Charge Materials Allocation Processor)," 17/11 (Nov.), 53
- Math/science concepts, "Project LOCAL Aide Students in Better Understanding of Math/Science Concepts," 17/12 (Dec.), 59
- Mathematical, "SIGMA FMS (Functional Mathematical Programming System)," 17/11 (Nov.), 53
- Matrix board, "Pluggable X-Y Matrix Board for Medical Research Applications," 17/11 (Nov.), 56
- "Matsushita Pressure-Sensitive Diode (MPS)" (in Annual Pictorial Review), 17/12 (Dec.), 40
- Measurement Analysis Corp., "Digitek Agrees to Acquire Measurement Analysis Corp.," 17/3 (March), 52
- Measurement Control Devices, Inc., "Book Size" Oscilloscope by Measurement Control Devices, Inc., 17/11 (Nov.), 56
- "Mechanical Transmission," by Andrew D. Booth, 17/4 (Apr.), 54
- Medical computing programs, "Open Letter to All Medical Computing Programs," by E. R. Gabrieli, 17/7 (July), 15
- Medical data, "Management Systems for Medical Data from Sanders," 17/11 (Nov.), 50
- Medical diagnostic center, "Complete Medical Examination at New Computerized Medical Diagnostic Center Takes Only 2-1/2 Hours," 17/9 (Sept.), 59
- Medical examination, "Complete Medical Examination at New Computerized Medical Diagnostic Center Takes Only 2-1/2 Hours," 17/9 (Sept.), 59
- Medical research, "Pluggable X-Y Matrix Board for Medical Research Applications," 17/11 (Nov.), 56
- "Medium-Scale Integrated Circuit Logic Featured in New Magnaflo Drum Memory," 17/8 (Aug.), 58
- MEETING NEWS: 17/3 (March), 59; 17/7 (July), 55; 17/10 (Oct.), 66
- "Memorex 630 Series Disc Drive," 17/2 (Feb.), 46
- Memories: "Random Access Memories from Infatech Inc.," 17/10 (Oct.), 62
- "Sanders Series 500 Memories," 17/7 (July), 53
- Memory: "New 256-bit Read-Only Memory by National Semiconductor," 17/10 (Oct.), 62
- "MDM-X Digital Computer Memory," 17/8 (Aug.), 58
- "Medium-Scale Integrated Circuit Logic Featured in New Magnaflo Drum Memory," 17/8 (Aug.), 58
- "SS/30 Small Store Memory Available from Varian Data Machines," 17/8 (Aug.), 58
- Memory computer, "Principles of a Two-Level Memory Computer," by Leonard Dreyer, 17/5 (May), 40
- Memory modules, "Corning Glass Works Introduces Low-Cost Glass Memory Modules," 17/5 (May), 61
- Memory plane, "Indiana General Introduces New Molded Memory Plane," 17/2 (Feb.), 47
- Memory products, "Data Products to Acquire Fairchild's Memory Products Section," 17/3 (March), 51
- Memory reader, "Lockheed Offers Magnetic Tape Memory Reader," 17/4 (Apr.), 65
- Memory system: "Ferroxcube Announces Compact, Low-Cost Memory System With Random Access," 17/1 (Jan.), 55
- "ISI Introduces Low-Cost Medium-Capacity Memory Systems," 17/11 (Nov.), 52
- Mendelsohn, H. A., "Art Reproduction," 17/1 (Jan.), 8
- Mensch, Michael, "Multitasking: What It Is ... When to Use It ... What to Look For ...," 17/2 (Feb.), 22
- Merge, "Ittek, Scionics Agree to Merge," 17/8 (Aug.), 55
- Mergenthaler Linotype Co., "Charles Brun Company to Market Automated Drafter for Mergenthaler Linotype Co.," 17/1 (Jan.), 54
- Merritt, R. M., "The Ten-Mile Gap -- Comments," 17/7 (July), 4
- "The Ten-Mile Gap -- Comments," 17/8 (Aug.), 4
- Message composer, "DATACALL Message Composer from DASA Corporation," 17/3 (March), 58
- Metals, "Arizona Prospectors Uses IBM Computer to Search Globe for Precious Metals," 17/8 (Aug.), 53
- Mezei, Leslie, Artist, and David Payne, Programmer, "Tower of Babel," Annual Computer Art Contest, 17/8 (Aug.), 12, 13
- Michaels, R. F., "Printing Error," 17/1 (Jan.), 8
- Nichigan gas supply, "Weather-Conscious Computer Monitors Michigan Gas Supply," 17/10 (Oct.), 58
- "Microfilm Combined with Computer for Information Handling," by George H. Harmon, 17/11 (Nov.), 36
- Microfilm storage, "All-Electronic Typewriter Sets Type for Full Page or Microfilm Storage in Seconds," 17/4 (Apr.), 63
- MICROMEMORY, "Electronic Memories Inc. Adds New Storage Capacity to MICROMEMORY 1000 System," 17/10 (Oct.), 61
- "Midgi-Counter," Smallest Decade Counter, by Pinitie, Inc., 17/10 (Oct.), 65
- "Midwestern's Tape Transport Is Plug-to-Play Replacement for IBM 2401 Tape Drive," 17/1 (Jan.), 59
- "Milgo Electronic Corporation Forms Communications Firm," 17/9 (Sept.), 58
- Miller, W. E., "The Impact of Digital Computers Upon Steel Works Operations," 17/7 (July), 22
- Milligan, Margaret, "Keeping Up With Reading," 17/4 (Apr.), 9
- Milojevic, Petar, "Labyrinth in Motion," Annual Computer Art Contest, 17/8 (Aug.), 10
- "Peek-A-Boo Circles," Annual Computer Art Contest, 17/8 (Aug.), 19
- "Ring Motif," Annual Computer Art Contest, 17/8 (Aug.), 20
- "A Sea Star," Annual Computer Art Contest, 17/8 (Aug.), 9
- "Mind Stretching," 17/2 (Feb.), 29
- Mine, "North America's Largest Underground Mine Uses Computer in Recovery of Molybdenum," 17/5 (May), 55
- "Yield at Mine Analyzed On-Line by Computer System," 17/9 (Sept.), 55
- "Microcircuits of Magnetic Computer Tape Available from Audio Devices," 17/2 (Feb.), 51
- "SCCELLAN," 17/8 (Aug.), 63
- "MIS-Teasing," 17/2 (Feb.), 48
- Missouri, "Computer-Based Site Selection System for State of Missouri," 17/4 (Apr.), 57
- "Mod 4 Operating System," 17/8 (Aug.), 58
- "Model 8403 Drum Memory," (in Annual Pictorial Report), 17/12 (Dec.), 39
- "Model 97460A Drum File System," (in Annual Pictorial Report), 17/12 (Dec.), 38
- "Model 101," 17/2 (Feb.), 48
- Model VI, "Gypsy, Model VI. Claude Shannon, Minwit and the Mouse," by George A. W. Boehm, 17/1 (Jan.), 49
- "Modular 3rd Generation Disc-Storage System from Computer Peripherals Corp.," 17/11 (Nov.), 53
- "Mohawk Data Sciences To Acquire DASA," 17/2 (Feb.), 45
- Molybdenum, "North America's Largest Underground Mine Uses Computer in Recovery of Molybdenum," 17/5 (May), 55
- Money counters, "Electronic Money Counters to Aid Tax Collectors of Nevada," 17/3 (March), 51
- Monitor system, "SSTPAC (a stand along diagnostic monitor system)," 17/10 (Oct.), 63
- Monitoring program, "Teller-Register Unit Monitoring Program (TRUMP)," 17/2 (Feb.), 48
- Monitoring system, "Patient Monitoring System from Redcor Corporation," 17/3 (March), 58
- "Monroe in the Net," by Haruki Tsuchiya, Annual Computer Art Contest, 17/8 (Aug.), 16
- MONTHLY COMPUTER CENSUS: 17/1 (Jan.), 64; 17/2 (Feb.), 54; 17/3 (March), 62; 17/4 (Apr.), 70; 17/5 (May), 70; 17/7 (July), 58; 17/8 (Aug.), 66; 17/9 (Sept.), 68; 17/10 (Oct.), 70; 17/11 (Nov.), 61; 17/12 (Dec.), 66
- Montreal, "NCR Opens Time-Sharing Data Center in Montreal," 17/10 (Oct.), 66
- Moorhead, Congressman William S., "Congress has Not Really Entered the Computer Age -- and Should," 17/8 (Aug.), 28
- Moral questions: "Computers and Moral Questions," by Edward C. Berkeley, 17/3 (March), 7
- "Computers and Moral Questions -- Comments," from Ernest D. Chu, 17/9 (Sept.), 4
- "Computers and Moral Questions -- Inventory of Pieces Published 1967 in Computers and Automation," 17/3 (March), 47
- Moran, Frank J., "The Value of Swift Knowing of New Knowledge," 17/4 (Apr.), 53
- Morrissey, Charles A., "Long-Range Planning in Personnel: The Impact of the Computer," 17/7 (July), 40
- "Motorola Reader Enters Data from Punched or Mark-Sense Cards and Documents," 17/2 (Feb.), 49
- Mouse, "Gypsy, Model VI. Claude Shannon, Minwit and the Mouse," by George A. W. Boehm, 17/1 (Jan.), 49
- MULTI-ACCESS FORUM: 17/1 (Jan.), 10; 17/2 (Feb.), 10; 17/3 (March), 10; 17/4 (Apr.), 10; 17/5 (May), 12; 17/7 (July), 10; 17/8 (Aug.), 28; 17/9 (Sept.), 10; 17/10 (Oct.), 8; 17/11 (Nov.), 11; 17/12 (Dec.), 8
- Multi-Access, "An Inter-City, Multi-Access, Time-Sharing Computer System," by Grant N. Boyd, 17/12 (Dec.), 21
- Multi-accumulator organization, "NOVA: Small-Scale General Purpose Computer Has Multi-Accumulator Organization," 17/11 (Nov.), 48
- "Multi-Copy Serial Printer" (in Annual Pictorial Report), 17/12 (Dec.), 46
- "Multi-Language Time-Sharing Computer Systems from Digital Equipment Corp.," 17/11 (Nov.), 49
- "Multiple-Access, Time-Sharing, Operating System," by R. R. Smith, 17/10 (Oct.), 24
- "Multiple Application Computer From Lockheed Electronics," 17/11 (Nov.), 49
- Multiple gas chromatographs, "GasChrom-6 for Analyzing Data from Multiple Gas Chromatographs," 17/4 (Apr.), 63
- "Multiple Page Keyboard (MPK) Announced by Philco," 17/9 (Sept.), 62
- "Multiple Page Keyboard (MPK) (in Annual Pictorial Report), 17/12 (Dec.), 42
- "Multiprogramming: What It Is ... When to Use It ... What to Look For ...," by Michael Newman, 17/2 (Feb.), 24
- Municipal information systems, "Prospects in Municipal Information Systems: The Example of Los Angeles," by Takuji Tamura, 17/1 (Jan.), 15
- Music competition, "Winning Entries in the 17th Congress Computer-Composed Music Competition," 17/7 (July), 17
- N
- NATTS accreditation, "CDC Institutes Get NATTS Accreditation," 17/5 (May), 58
- NC tapes, "QUICKPOINT, a Low-Cost Computer Based System for Preparing NC Tapes," 17/5 (May), 61
- NCR: "Century Series Computers Announced by NCR," 17/4 (Apr.), 62
- "Magnetic-Ledger Storage Capacity of Series 500 Increased by NCR," 17/5 (May), 61
- "Thousand-and-One" Accounting Machine Introduced by NCR," 17/7 (July), 54
- "NCR Acquires Argentine Business Machine Company," 17/8 (Aug.), 55
- "NCR Acquires Krupp Minority Holding in German Company," 17/3 (March), 51
- "NCR Century Series Computers" (in Annual Pictorial Report), 17/12 (Dec.), 31
- "NCR to Market Credit-Builder's Credit-Inquiry System," 17/7 (July), 47
- "NCR Opens Time-Sharing Data Center in Montreal," 17/10 (Oct.), 66
- "NCR, Sanders Associates Announce Multi-Million-Dollar Agreement," 17/2 (Feb.), 44
- "NCR Seminars on Automated Record Handling for Catholic Schools," 17/8 (Aug.), 56
- "NCR Will Market Ultronic Data-Systems with Century Computers," 17/7 (July), 48
- Name change, "URS Changes Name to URS Systems Corporation," 17/9 (Sept.), 58
- Nanosecond line, "Electronic Memories Add 900 Nanosecond System to Nanosecond Line," 17/2 (Feb.), 47
- "National Academy of Sciences Established a 'Computer Science and Engineering Board,'" 17/8 (Aug.), 29
- "National Bureau of Standards Institute for Materials Research Applies Automation at the Crystal Data Center," 17/2 (Feb.), 42
- National Cybernetics, "Magnetic 'Flow Chart' Kits by National Cybernetics," 17/10 (Oct.), 65
- National Semiconductor, "New 256-Bit Read-Only Memory by National Semiconductor," 17/10 (Oct.), 62
- "Nationwide Earth Science Computer Network Is Now Operational," 17/7 (July), 45
- "Nationwide Network of Data Processing Facilities Planned by UNIVAC," 17/4 (Apr.), 59
- "Navajo Tribe Using Computer to Perform more than 125 Distinct Projects," 17/2 (Feb.), 41
- "Needed: Programmers," by Sven A. Larsen, 17/12 (Dec.), 50
- "NEPTUNE," 17/7 (July), 54
- Network, "Soviet Lags in Use of Business Computers, But Plans Network That Will Run Entire Polytechnic Institute Link IBM 1130 With NYU's CDC 6600," 17/5 (May), 65
- New York youngsters, "Computerized Games Help New York Youngsters Learn How to Run a Store, a Company or a Country," 17/4 (Apr.), 60
- Newkirk, Nate A., "Innovation in Teaching -- Why Industry Leads the Way," 17/10 (Oct.), 45
- "Newly Established Position of Full-Time Executive Director Marks a Key-Point in AFIPS History," 17/11 (Nov.), 58
- Newspapers, "Facsimile Newspapers in Homes, Visioned in 1909," by M. K. Raudas, 17/5 (May), 16
- "Nimbanacci," by Walter Penney, 17/9 (Sept.), 51
- Nimwit, "Gypsy, Model VI. Claude Shannon, Minwit and the Mouse," by George A. W. Boehm, 17/1 (Jan.), 49
- "The 1968 Computer Directory and Buyers' Guide: Supplement, September, 1968," 17/9 (Sept.), 14
- ceive from Wide Variety of Business Machines," 17/8 (Aug.), 62
- "New Datacoupler Links Any Digital Tape Recorder to Any Signal Source," 17/10 (Oct.), 65
- New England, "ITT Division Innovates 3rd Generation Time-Sharing Service in New England," 17/7 (July), 50
- "New Family of Data Acquisition Systems from Redcor Corp.," 17/11 (Nov.), 52
- "New Field Tape Recorder Weighs Less Than 50 Lbs.," 17/3 (March), 58
- New ideas, "Remote Batch Processing and Other Good New Ideas in the Computer Field," by Edmund C. Berkeley, 17/10 (Oct.), 6
- NEW INSTALLATIONS: 17/1 (Jan.), 62; 17/2 (Feb.), 53; 17/3 (March), 61; 17/4 (Apr.), 69; 17/5 (May), 69; 17/7 (July), 57; 17/8 (Aug.), 65; 17/9 (Sept.), 67; 17/10 (Oct.), 69; 17/11 (Nov.), 60; 17/12 (Dec.), 64
- "New Installations," from D. Prottil, 17/3 (March), 8
- "New Instrument Symbols Identified by Standard Issued by the Instrument Society of America," 17/7 (July), 55
- NEW LITERATURE: 17/9 (Sept.), 65; 17/11 (Nov.), 57; 17/12 (Dec.), 62
- "New Meter Added to Burroughs 500 Systems Family," 17/4 (Apr.), 61
- NEW PATENTS by Raymond R. Skolnick: 17/1 (Jan.), 66; 17/2 (Feb.), 58; 17/3 (March), 65; 17/4 (Apr.), 74; 17/5 (May), 74; 17/7 (July), 61; 17/8 (Aug.), 69; 17/9 (Sept.), 74; 17/10 (Oct.), 74; 17/11 (Nov.), 66; 17/12 (Dec.), 70
- NEW PRODUCTS: 17/1 (Jan.), 55; 17/2 (Feb.), 46; 17/3 (March), 55; 17/4 (Apr.), 61; 17/5 (May), 59; 17/7 (July), 51; 17/8 (Aug.), 56; 17/9 (Sept.), 60; 17/10 (Oct.), 60; 17/11 (Nov.), 48
- "New Proposals Filed by AT&T with Federal Communications Commission," 17/10 (Oct.), 67
- "New Translator Can Link Computers and Any Communications Network," 17/10 (Oct.), 64
- "New 256-Bit Read-Only Memory by National Semiconductor," 17/10 (Oct.), 62
- "New UNIVAC 9400 System Added to UNIVAC 9000 Series by Sperry Rand's UNIVAC Div.," 17/3 (March), 55
- "New X-Y Recorder by Honeywell," 17/10 (Oct.), 64
- New York, "State University of New York Gets Data Science Institute," 17/9 (Sept.), 58
- NYC, "Established Position of Full-Time Executive Director Marks a Key-Point in AFIPS History," 17/11 (Nov.), 58
- Newspapers, "Facsimile Newspapers in Homes, Visioned in 1909," by M. K. Raudas, 17/5 (May), 16
- "Nimbanacci," by Walter Penney, 17/9 (Sept.), 51
- Nimwit, "Gypsy, Model VI. Claude Shannon, Minwit and the Mouse," by George A. W. Boehm, 17/1 (Jan.), 49
- "The 1968 Computer Directory and Buyers' Guide: Supplement, September, 1968," 17/9 (Sept.), 14
- "1969 IEI Reference," by Don (Oct.), 1969 IEI Reference, Call for Trudgers' 1969 Sp... by T. H. Nippon Co. "Japan Council on B... ting M... orator... Nolan, L... cles," test, Non-Linear... table... from Ne... 17/11 (Nov.) Noirair E... tion Ma... soring S... North Am... netics... can Ro... (Autom... dem)," "North A... ground... cov... (Nov.) "No. Car... fers O... ings C... 12 (Dec.) "North C... range... Comput... (Dec.) Northern... lists... of Nor... (Sept.) "Nova" (c... port," "NOVA: C... mulator... (Nov.) Nuclear... tion o... by Hyb... J. Kov... "Num... -- and... Nacdon... 17/11 (Nov.) "Numble... NUMBIS: Nimble... by Nel... (Oct.) "Numbles... 17/12 (Dec.) "Numerie... are Mo... Boards... DEI Com... iron... pter... (March... "Oakland... First... Stadium... (July) O'Brien... 17/5 (May) "Data... Bank... 10 (Oct.) "Ochs, H... and Sc... Odyssey... tion -... the IL... 17/4 (Oct.) Off-line... let," line D... With N... 3 (Mar... Ohio, "B... Create... vice... (May), "Ohio St... the FI... format... (Oct.), Oakl...

# Annual Index

- "1969 IEEE Computer Group Conference -- Call for Papers," by Donald L. Epley, 17/10 (Oct.), 52
- "1969 IEEE Power Industry Computer Applications Conference -- Call for Papers," from W. D. Trudgen, 17/9 (Sept.), 12
- "1969 Spring Joint Computer Conference -- Call for Papers," by T. H. Bonn, 17/7 (July), 17
- Nippon Calculating Machine Co., "Japan's Foreign Investment Council Approves License Agreement Between Nippon Calculating Machine Co. and Wyle Laboratories," 17/1 (Jan.), 54
- Nolan, Lawrence, "Concentric Circles," Annual Computer Art Contest, 17/8 (Aug.), 24
- Non-Linear Systems, Inc., "Portable Data Acquisition System from Non-Linear Systems, Inc.," 17/11 (Nov.), 52
- Norair Engineering Corp., "Computer Making Impact at Construction Sites for Norair Engineering Corp.," 17/4 (Apr.), 58
- North American Rockwell, "Automatic Division of North American Rockwell Develops ADAM (Automatic Data Equalized Modem)," 17/3 (March), 39
- "North America's Largest Underground Nine Uses Computer in Recovery of Molybdenum," 17/5 (May), 55
- "No. Carolina Insurance Firm Offers On-Line Service for Savings & Loan Associations," 17/12 (Dec.), 60
- "North Carolina Universities Arrange Cooperative Educational Computer Facility," 17/12 (Dec.), 59
- Northern Lights, "Alaskan Scientists Apply Computer in Study of Northern Lights," 17/9 (Sept.), 55
- "Nova" (in Annual Pictorial Report), 17/12 (Dec.), 30
- NWA: Small-Scale General Purpose Computer has Multi-Accumulator Organization," 17/11 (Nov.), 48
- Nuclear power plant, "Optimization of a Nuclear Power Plant by Hybrid Computer," by Joseph J. Kovacs, 17/7 (July), 26
- "Number Puzzles for Nimble Minds -- and Computers," by Neil Macdonald, 17/10 (Oct.), 14; 17/11 (Nov.), 26
- "Number 6012," 17/12 (Dec.), 28
- NUMPLES: "Number Puzzles for Nimble Minds -- and Computers," by Neil Macdonald, 17/10 (Oct.), 14; 17/11 (Nov.), 26
- "Numbers," from John A. Bowen, 17/12 (Dec.), 4
- "Numbers," by Neil Macdonald, 17/12 (Dec.), 28
- "Numbers" from Robert A. List, 17/12 (Dec.), 4
- "Numeric Readouts, from Dialight, Mounted on Printed Circuit Boards," 17/11 (Nov.), 56
- O
- OEI Computer Systems Corp., "Veratron Corp. to Acquire OEI Computer Systems Corp.," 17/3 (March), 52
- "Oakland Athletics will have First Computer-Controlled Stadium Scoreboards," 17/7 (July), 45
- O'Brien, Dr. James A.: "The Bank of Tomorrow: Today," 17/5 (May), 26
- "Data Processing Services: Banking's New Product," 17/10 (Oct.), 40
- Ochs, Richard, "Social Issues and Science," 17/10 (Oct.), 4
- Odey, "Computer Answers Question -- 'Did Homer Write Both the Iliad and the Odyssey?'," 17/4 (Apr.), 57
- Off-line data preparation market, "Honeywell Enters Off-line Data Preparation Market With New Keytape Devices," 17/3 (March), 57
- Ohio, "Blue Cross of Central Ohio Creates Computer Center Service for Hospitals," 17/5 (May), 59
- "Ohio State To Grant Degrees in the Field of Computer and Information Science," 17/2 (Feb.), 45
- Okabe, Kamoto, Haruki Tsuchiya, and Koji Fujino, "Deformation of Sharaku," Annual Computer Art Contest, 17/8 (Aug.), 25
- Olli: "Alaskan Geologists Use Computer to Explore for Oil," 17/8 (Aug.), 54
- "Power of Six Computers Probes the Sea for Oil," 17/11 (Nov.), 46
- "Oil Paintings Produced with Aid of Computer," 17/9 (Sept.), 56
- Oil sources, "Computer-Controlled Optical System Hunts New Oil Sources," 17/7 (July), 45
- Oklahoma, "University Computing Company Opens Major Computer Facility in Tulsa, Oklahoma," 17/5 (May), 59
- Olivetti-GE, "Italy's First Commercial Time-Sharing Service Is Opened by Olivetti-GE," 17/7 (July), 50
- "OMEGA," 17/1 (Jan.), 57
- On-line service, "No. Carolina Insurance Firm Offers On-Line Service for Savings & Loan Associations," 17/12 (Dec.), 60
- On-line system, "Allegheny Health Department Monitoring Air Pollution With On-Line System," 17/12 (Dec.), 58
- "One Computer Talks to Another With Datametrics' Coupler," 17/10 (Oct.), 64
- "100-V Analog/Hybrid Computing System from EAI," 17/11 (Nov.), 50
- "One Microsecond Core Memory by Lockheed Electronics," 17/11 (Nov.), 52
- "One Microsecond Core Memory, Model CR-95" (in Annual Pictorial Report), 17/12 (Dec.), 39
- "Op Art Computerized," by Donald Robbins, Annual Computer Art Contest, 17/8 (Aug.), 26
- Open-heart surgery, "Computer Monitoring System Used for Postoperative care of Open-Heart Surgery Cases at University of Alabama," 17/3 (March), 50
- "Open Letter to All Medical Computing Programs," by E. R. Gabrieli, 17/7 (July), 15
- "Operating System," "Multiple-Access, Time-Sharing, Operating System," by B. R. Smith, 17/10 (Oct.), 24
- "Operation Bootstrap in the Computer Field," by Edmund C. Berkeley, 17/11 (Nov.), 6
- OpenScan 288 Reads Hand-printed Characters for Direct Input to Computers," 17/5 (May), 64
- Optical character recognition system, "Cognitronics Introduces Remote Optical Character Recognition System," 17/8 (Aug.), 60
- Optical shaft encoders, "Librascope's New Optical Shaft Encoders," 17/10 (Oct.), 65
- Optical system, "Computer-Controlled Optical System Hunts New Oil Sources," 17/7 (July), 45
- "Optimat -- Automated System for Circuitry Artwork," 17/1 (Jan.), 59
- "Optimization of a Nuclear Power Plant by Hybrid Computer," by Joseph J. Kovacs, 17/7 (July), 26
- "OPTOMECHANISMS Inc. Markets Hard Copy Generator System for Computer/TV Outputs," 17/9 (Sept.), 62
- "The Orbit Tree," by Lloyd Summer, Annual Computer Art Contest, 17/8 (Aug.), 23
- Organizations: "Roster of Commercial Organizations Offering Courses, Training, or Instruction in Computing, Programming or System," 17/6 (June), 73
- "Roster of Organizations in the Electronic Computing and Data Processing Industry," 17/6 (June), 8
- "Roster of Organizations Offering Computing and Data Processing Services," 17/6 (June), 65
- "Roster of Organizations Offering Consulting Services in the Computer Field," 17/6 (June), 80
- "Roster of Organizations Selling and/or Producing Software," 17/6 (June), 84
- "Roster of Organizations Specializing in Leasing or Financial Services in the Computer Field," 17/6 (June), 88
- ORGANIZATION NEWS: 17/1 (Jan.), 52; 17/2 (Feb.), 44; 17/3 (March), 51; 17/4 (Apr.), 58; 17/5 (May), 56; 17/7 (July), 47; 17/8 (Aug.), 54; 17/9 (Sept.), 57; 17/10 (Oct.), 67; 17/11 (Nov.), 58; 17/12 (Dec.), 62
- Orlicky, Joseph A., "Computer Selection," 17/9 (Sept.), 44
- Oscilloscope, "Book Size" Oscilloscope by Measurement Control Devices, Inc., 17/11 (Nov.), 56
- O'Shaughnessy, G. P., "Computer Art," 17/10 (Oct.), 4
- Ottawa Journal, "Computers -- A New Public Utility," based on an article by Len Carter, 17/8 (Aug.), 31
- "Our Limited Ability to Understand and to Specify," 17/3 (March), 42
- "Output vs. Input," by Bob Schultz, Annual Computer Art Contest, 17/8 (Aug.), 24
- "Over 1400 Applications of Electronic Computing and Data Processing Equipment," 17/6 (June), 124
- Oyer, Paul D., "Association for Computing Machinery Forms Special Interest Group on Business Data Processing (SIGBODP)," 17/9 (Sept.), 12
- P
- PC-board, "BLINC," New Automatic Device for Inspecting PB-Board Assemblies," 17/5 (May), 65
- PDC 808, "Computer Automation, Inc. Announces the PDC 808 --," 17/7 (July), 52
- "PDC 816" (in Annual Pictorial Report), 17/12 (Dec.), 34
- "PDP-8/L Computer" (in Annual Pictorial Report), 17/12 (Dec.), 30
- PDP-8/L and PDP-9/L, "Digital Equipment Announces Two New Low-Cost Computers, PDP-8/L and PDP-9/L," 17/8 (Aug.), 56
- "PDP-8/L Computers Control Delivery of 2000 Barrels Per Year of Crude Oil," 17/12 (Dec.), 57
- "PMI (Personnel Management Information System)," 17/11 (Nov.), 53
- "POLE (Public Opinion Logical Expectation)," 17/10 (Oct.), 63
- PRISM, "Program Reporting and Information Systems for Management (PRISM)," 17/9 (Sept.), 63
- "PROMPT (Program Monitoring and Planning Techniques)," 17/8 (Aug.), 58
- PSP, "Power System Planning (PSP)," 17/9 (Sept.), 62
- "P203 Computerized Accounting Machine" (in Annual Pictorial Report), 17/12 (Dec.), 34
- "Pack-Scan I -- Disc Pack Tester and Certifier," 17/11 (Nov.), 56
- "Package Computer Room" (in Annual Pictorial Report), 17/12 (Dec.), 49
- Paintbrush, "Is the Computer an Artist's Paintbrush?" by Daniel T. Langdale, 17/8 (Aug.), 31
- Paintings, "Oil Paintings Produced with Aid of Computer," 17/9 (Sept.), 56
- Pak-Well Paper Industries, Inc., "Computer-Pak for Computer-Envelope Addressing," 17/11 (Nov.), 56
- Paper shredder, "Computer Room Paper Shredder," 17/10 (Oct.), 65
- Papers, "1969 Spring Joint Computer Conference -- Call for Papers," by T. H. Bonn, 17/7 (July), 17
- "Paragon Systems Enters Digital Peripheral Field," 17/2 (Feb.), 44
- "Patch Cords" (in Annual Pictorial Report), 17/12 (Dec.), 40
- Patents -- see "New Patents"
- "Patient Monitoring System from Redcor Corporation," 17/3 (March), 58
- Payne, David, Programmer, and Leslie Mezel, Artist, "Tower of Babel," Annual Computer Art Contest, 17/8 (Aug.), 12, 13
- "Payroll Accounting System," 17/2 (Feb.), 48
- "Payroll Software System," 17/10 (Oct.), 62
- Peace candidate campaigns, "Computer Professionals for Peace (CPP) Are Programming a Computer to Produce Voting Lists to Aid Peace Candidate Campaigns," 17/7 (July), 14
- Peacock, James, "Good Communication Between People, Between Machines, and Between People and Machines -- and Obfuscation," 17/7 (July), 10
- Peardon, Glenn W., "Computers and Education," 17/5 (May), 8
- "Peek-A-Boo Circles," by Petar Milojevic, Annual Computer Art Contest, 17/8 (Aug.), 19
- Penn, Stanley, Government Seeks New Data on Competition in the Computer Industry," 17/1 (Jan.), 24
- Penney, Walter: -- see "Problem Corner"
- "Problem 602: Changing a Bit," 17/2 (Feb.), 57
- "Problem 604: A Conversion Trick," 17/4 (Apr.), 47
- "Problem 605: Only Half Right," 17/5 (May), 48
- "Problem 607: Coffee and Pi," 17/7 (July), 42
- "Problem 6012: An Arabic Gray Code," 17/12 (Dec.), 69
- Perforated tape reader, "Digitronics Model 2540, Perforated Tape Reader," 17/2 (Feb.), 50
- Peripheral equipment, "IEEE Technical Committee on Computer Peripheral Equipment Seeks Volunteers," by Edwin I. Blumenthal, 17/11 (Nov.), 13
- Peripheral equipment company, "Scientific Data Systems Negotiating To Establish Peripheral Equipment Company in Israel," 17/5 (May), 56
- Peripheral equipment manufacturers, "The Future of Computer Communications -- and the Small Peripheral Equipment Manufacturers," by Ted Schoeters, 17/4 (Apr.), 48
- "Personal Trust Accounting System," 17/10 (Oct.), 63
- Personnel, "A Flexible Concept for Recruiting Data Processing Personnel for the 1970's" by Sidney Davis, 17/9 (Sept.), 22
- "Long-Range Planning in Personnel: The Impasse of the Computer," by Charles A. Morrissey, 17/7 (July), 40
- "PMI (Personnel Management Information System)," 17/11 (Nov.), 53
- "Personnel Requirements in Data Processing," by Warren K. Gillis, 17/9 (Sept.), 24
- Peterson, H. Philip, "Cybernumatics," Annual Computer Art Contest, 17/8 (Aug.), 21
- Peterson, "A Computerized Photocopying System of Graphic Arts Quality," 17/11 (Nov.), 22
- Philco, "Multiple Page Keyboard (MPK) Announced by Philco," 17/9 (Sept.), 62
- "Philco-Ford" Computer Services Network (CSN) Will Offer Time-Sharing Services," 17/9 (Sept.), 60
- "Phillips Offers Inexpensive Bookshelf-Type Core Memory System," 17/9 (Sept.), 61
- Phone device, "Xerox Phone Device Works After Hours," 17/10 (Oct.), 63
- "Photoconductor Arrays" (in Annual Pictorial Report), 17/12 (Dec.), 40
- "Photoelectric Sensing Head Automates Waxing of Cars," 17/11 (Nov.), 57
- Photo-etching plastic, "Farrington Manufacturing Co. Acquires New Process for Photo-etching Plastic," 17/5 (May), 58
- Photographs, "Utah Computer Researchers Create 'Idea Photographs,'" by Dr. David C. Evans, 17/2 (Feb.), 11
- Physician-oriented computer applications, "Worley & Ringe, Inc. Provide Physician-Oriented Computer Applications," 17/8 (Aug.), 35
- Pierce, John R., "Successful Machine Translation through Semantic 'Understanding' by the Machine," 17/9 (Sept.), 30
- Pillitteri Inc., "Midpoint-Counter, Smallest Decade Counter, by Pillitteri Inc.," 17/10 (Oct.), 65
- PLAN, "Problem Language Analyzer (PLAN)," 17/9 (Sept.), 62
- Plastic, "Farrington Manufacturing Co. Acquires New Process for Photo-etching Plastic," 17/5 (May), 58
- "Plated Wire Memory Array" (in Annual Pictorial Report), 17/12 (Dec.), 35
- "Plexus," by Kerry Strand, Larry Jenkins, and Gary Craigie, Annual Computer Art Contest, 17/8 (Aug.), 15
- Plotter, "Houston Instrument Introduces New Digital Plotter," 17/5 (May), 63
- Plotter terminal, "Data Interface Corporation Announces Plotter Terminal for Time-Share Databases," 17/10 (Oct.), 56
- "Plugable X-Y Matrix Board for Medical Research Applications," 17/11 (Nov.), 56
- Poison control, "C-E-I-R's Multi-Access Computing Service Used for Poison Control," 17/1 (Jan.), 51
- Porcelain, "Computer May Help Detect Forgeries of Priceless Porcelain," 17/7 (July), 47
- "Portable Air Spray for Delicate Dusting," 17/10 (Oct.), 56
- "Portable Data Acquisition System from Non-Linear Systems, Inc.," 17/11 (Nov.), 52
- "Portable Data Coupler for Use with Ordinary Telephone," 17/4 (Apr.), 64
- "Portable Digital Data Logger from Control Equipment Corp.," 17/3 (March), 57
- "Portland Engineers See into 21st Century with Help of IBM Computers," 17/8 (Aug.), 53
- Postprocessor system, "GECNET III Postprocessor System," 17/3 (March), 56
- "Potter ADELIC Makes 50% Storage Capacity Increases Possible for All Disk Packs and 1,600 RPI Tape Handlers," 17/1 (Jan.), 57
- "Potter DB4311 Disk Drive is IBM Compatible," 17/8 (Aug.), 61
- "Potter Instrument Co. Introduces New Low Cost General Purpose Computer," 17/3 (March), 56
- "Power of Six Computers Probes the Sea for Oil," 17/11 (Nov.), 46
- "Power System Planning (PSP)," 17/9 (Sept.), 62
- "Practical Considerations in Program Patentability," by Dr. Leon Davidson, 17/5 (May), 12
- "Praise for Pictorial," from Shirley Cohen, 17/2 (Feb.), 7
- "Precision Axiom Now Is Automated by Buckbee-Mears," 17/5 (May), 54
- Precision circuits, "RCA to Start Marketing Precision Circuits to Electronics Industry," 17/4 (Apr.), 58
- "Prefabricated Walls Built Automatically with Computer-Directed Machine," 17/10 (Oct.), 57
- "Preliminary Negotiations are Completed for Acquisition of American Business Systems by Control Data," 17/9 (Sept.), 58
- "Preview of Who's Who in the Computer Field," Fifth Edition," 17/4 (Apr.), 14
- Price, George W., "Proof Goofs," 17/11 (Nov.), 4
- "Principles of a Two-Level Memory Computer," by Leonard Dreyer, 17/5 (May), 40
- Printed circuit, "Flexible Multi-layered Printed Circuit Developed by Tyco's Electralab Division," 17/8 (Aug.), 63
- Printed circuit boards, "Numeric Readouts, from Dialight, are Mounted on Printed Circuit Boards," 17/11 (Nov.), 56
- Printer, "IBM 2680 CRT Printer Sets Type Six Times Faster," 17/1 (Jan.), 58
- "New BCD Printer Available from AIC Instruments," 17/4 (Apr.), 65
- "Stromberg Datagraphics SD 4360 Printer," 17/10 (Oct.), 64



# Annual Index

- "Printing Error," from R. F. Michaels, 17/1 (Jan.), 8
- "Prison Inmates Learn, Then Teach Computer Programming," 17/3 (March), 53
- Privacy, "Electronic Devices Can Protect Privacy as Well as In-vade It," by John E. Foster, 17/5 (May), 15
- Private schools, "Computer Training in Private Schools," by Sven A. Larsen, 17/3 (March), 22
- PROBLEM CORNER:** "Problem 681: Integer Part of a Number Given in Floating Point Form," by Benjamin L. Schwartz, 17/1 (Jan.), 50
- "Problem 682: Changing a Bit," by Walter Penney, 17/2 (Feb.), 57
- "Problem 683: What's WHAT?," by George Blondin, 17/3 (March), 43
- "Problem 684: A Conversion Trick," by Walter Penney, 17/4 (Apr.), 47
- "Problem 685: Only Half Right," by Walter Penney, 17/5 (May), 48
- "Problem 687: Coffee and Pi," by Walter Penney, 17/7 (July), 42
- "Problem 688: Different Differences," by Walter Penney, 17/8 (Aug.), 51
- "Problem 6811: Saving Computer Time," 17/11 (Nov.), 26
- PROBLEM CORNER:** by Walter Penney, 17/9 (Sept.), 51; 17/10 (Oct.), 54; 17/11 (Nov.), 26; 17/12 (Dec.), 69
- "The Problem of Keeping Up With One's Reading," by Edmund C. Berkeley, 17/2 (Feb.), 8
- "Problem Language Analyzer (PLAN)," 17/9 (Sept.), 62
- "Problem 681: Integer Part of a Number Given in Floating Point Form," by Benjamin L. Schwartz, 17/1 (Jan.), 50
- "Problem 682: Changing a Bit," by Walter Penney, 17/2 (Feb.), 57
- "Problem 683: What's WHAT?," by George Blondin, 17/3 (March), 43
- "Problem 684: A Conversion Trick," by Walter Penney, 17/4 (Apr.), 47
- "Problem 685: Only Half Right," by Walter Penney, 17/5 (May), 48
- "Problem 687: Coffee and Pi," by Walter Penney, 17/7 (July), 42
- "Problem 689: Nimbancacci," by Walter Penney, 17/9 (Sept.), 51
- "Problem 6812: An Arabic Gray Code," by Walter Penney, CDP, 17/12 (Dec.), 49
- "Problems," from W. Preston Haupt, 17/1 (Jan.), 8
- Probst, Lester A., "Communications Data Processing Systems: Design Considerations," 17/5 (May), 49
- "Communications Data Processing or Time-Sharing?," 17/8 (Aug.), 34
- Process control, "Leads & Northrup LK5000 Digital Computer System for Process Control," 17/8 (Aug.), 56
- Pro-Data, "Burroughs Enters Agreement with Pro-Data Computer Services, Inc.," 17/5 (May), 56
- Products and services, "Buyers' Guide to Products and Services in the Electronic Computing and Data Processing Field," 17/6 (June), 49
- Professional services, "Systems Analysis, Computers, and the Future of Professional Services," by Dr. Robert W. Krueger, 17/7 (July), 54
- Program, "Short-Circuit Study Computer Program," 17/11 (Nov.), 53
- "Program Generators: How Good are They?," by James R. Ziegler, 17/7 (July), 18
- Program monitoring, "PROMT (Program Monitoring and Planning Techniques)," 17/8 (Aug.), 58
- Program patentability, "Practical Considerations in Program Patentability," by Dr. Leon Davidson, 17/5 (May), 12
- "Program Reporting and Information Systems for Management (PRISM)," 17/9 (Sept.), 62
- Programming digital controller, "Computer Automation Inc. Markets Second 'Programmed Digital Controller,'" 17/10 (Oct.), 60
- "Programmer/Correspondent Sought," from M. J. Frost, 17/2 (Feb.), 6
- Programming, "The Changing Nature of Programming," by Dr. Paul S. Herwitz, 17/1 (Jan.), 27
- Programming contest, "Fifth Annual Computer Programming Contest for Grades 7 to 12," 17/1 (Jan.), 12
- Programming education, "The Programming Profession, Programming Theory, and Programming Education," by Larry L. Constantine, 17/2 (Feb.), 14
- Programming instruction, "Control Data Institute Offers New Approach to Programming Instruction for Computerless Schools in N.E.," 17/12 (Dec.), 59
- Programming languages, "Roster of Programming Languages -- 1968," by Jean E. Sammet, 17/6 (June), 120
- "The Programming Profession, Programming Theory, and Programming Education," by Larry L. Constantine, 17/2 (Feb.), 14
- Programming system, "An Interactive Programming System for the Casual User," by Norton J. Bernstein and Thomas G. Williams, 17/2 (Feb.), 26
- Programming technology, "The Teaching of Programming Technology," by Perry C. Smith, 17/2 (Feb.), 30
- Programming theory, "The Programming Profession, Programming Theory, and Programming Education," by Larry L. Constantine, 17/2 (Feb.), 14
- Programs, "425 Computer Programs Available," 17/3 (March), 15
- "Programs and Software Should be Patentable," by Richard C. Jones, 17/3 (March), 11
- "Project LOCAL Aids Students in Better Understanding of Math/Science Concepts," 17/10 (Oct.), 59
- "Proof Goof 6812," 17/12 (Dec.), 15
- "Proof Goofs," from George W. Price, 17/11 (Nov.), 4
- PROOF GOOFS by Neil Macdonald: 17/9 (Sept.), 53; 17/10 (Oct.), 50; 17/11 (Nov.), 41; 17/12 (Dec.), 15
- "Proof Goofs," from Philip L. Sibert, 17/12 (Dec.), 14
- "Proof Goofs," from Roland Mann, 17/12 (Dec.), 14
- "Proof Goofs," from T.D.C. Kuch, 17/12 (Dec.), 14
- "Proof Goofs," from William A. Barden, 17/11 (Nov.), 4
- "Proof Goofs and Proofreading Errors -- Comments," from Enoch J. Haga and from the Editor, 17/11 (Nov.), 12
- Proofreading errors: "The Catching of Errors by Inspection -- and Particularly Proofreading Errors," by Edmund C. Berkeley, 17/9 (Sept.), 6
- "Detecting Proofreading Errors Without a Computer," by John H. Reddersen, 17/12 (Dec.), 12
- "Proof Goofs and Proofreading Errors -- Comments," from Enoch J. Haga and from the Editor, 17/11 (Nov.), 12
- "Proprietary Protection of Computer Programs," by Sheldon J. (Feb.), 32
- Prospector, "Arizona 'Prospector' Uses IBM Computer to Search Globe for Precious Metals," 17/8 (Aug.), 53
- "Prospects in Municipal Information Systems: The Example of Los Angeles," by Takaji Tamara, 17/1 (Jan.), 15
- Protection, "Proprietary Protection of Computer Programs," by Sheldon J. (Feb.), 32
- Protty, D., "New Installation," 17/3 (March), 8
- Public Opinion Logical Expectation, "POLE (Public Opinion Logical Expectation)," 17/10 (Oct.), 43
- Public utility, "Computers -- A New Public Utility," based on an article by Len Carter in the *Ottawa Journal*, 17/8 (Aug.), 31
- Public works dept., "Computer 'Devooring' Toronto for Public Works Dept. Repair Program," 17/1 (Jan.), 51
- Publications -- see "Books and Other Publications"
- "Putnam Mutual Funds Uses IBM Computer to Furnish Up-to-the-Minute Information," 17/10 (Oct.), 58
- Q**
- "Queen Elizabeth II is Patron of IFIP Congress '68," 17/7 (July), 55
- "QUICKPOINT, a Low-Cost Computer Based System for Preparing NC Tapes," 17/5 (May), 61
- R**
- "RBIO Storage Disk File" (in Annual Pictorial Report), 17/12 (Dec.), 38
- RCA, "Commercial Credit and RCA are Forming Company for Nationwide Time-Sharing Computer Service," 17/4 (Apr.), 59
- "RCA Discloses Programs to Hire and Train Hard-Core Unemployed," 17/7 (July), 49
- "RCA to Start Marketing Precision Circuits to Electronics Industry," 17/4 (Apr.), 58
- "RENIS (Real Estate Management Information System)," 17/5 (May), 62
- "REG Listing Aid," 17/1 (Jan.), 5
- "Radiation Therapy Analysis Speeded by Computer," 17/11 (Nov.), 46
- Radio production, "TV, Radio Production, and Broadcasting Controlled by Computer in New Tokyo System," 17/11 (Nov.), 47
- "RAIL-CON," 17/4 (Apr.), 64
- Rain, "Computerized Rain Gauges Map's Knowledge About Rain and Runoff," 17/5 (May), 54
- Randam, M. K., "Facsimile Newspapers in Homes, Visioned in 1909," 17/5 (May), 16
- "Randolph Computer Corp. to Acquire United Data Processing Services," 17/3 (March), 51
- "Random Access Memories from Infotechnics Inc.," 17/10 (Oct.), 62
- "Random Access Memories Type MDX-X" (in Annual Pictorial Report), 17/12 (Dec.), 39
- "Ranges of Speeds of Commercial Computers," 17/6 (June), 123
- "Rapid Access Data Storage System," 17/10 (Oct.), 61
- "Rapid Efficient Starting of Acquaintanceships in the Computer Field," by Roger Barnard, 17/7 (July), 16
- "Reach Preliminary Agreement for Acquisition of Electronic Associates Inc. by Control Data Corporation," 17/4 (Apr.), 59
- Read-only memory, "New 256-bit Read-Only Memory by National Semiconductor," 17/10 (Oct.), 62
- Reader-sorter, "Document Reader-Sorter Especially for Bankers," 17/10 (Oct.), 64
- Reading, "The Problem of Keeping Up With One's Reading," by Edmund C. Berkeley, 17/2 (Feb.), 8
- Readouts, "Numeric Readouts, from Dialight, are Mounted on Printed Circuit Boards," 17/11 (Nov.), 56
- Reads, "IBM Machine Reads Full Pages Directly into Computer," 17/9 (Sept.), 64
- Real estate management, "RENIS (Real Estate Management Information System)," 17/5 (May), 62
- Real time, "Apollo Biomedical Data to be Processed in Real Time," 17/10 (Oct.), 57
- Reapportionment Cases, from Michael A. Duggan, 17/1 (Jan.), 8
- "Recent Articles in C&A," 17/7 (July), 8
- "Recognition Equipment has Acquired Teletrans Corporation," 17/1 (Jan.), 54
- Recognition system, "Cognitronics Introduces Remote Optical Character Recognition System," 17/8 (Aug.), 60
- Recorders, "Beckman 3700 Series Data Acquisition Recorders," 17/8 (Aug.), 61
- "Recording Disk Unit Assembly" (in Annual Pictorial Report), 17/12 (Dec.), 49
- Recruiting, "A Flexible Concept for Recruiting Data Processing Personnel for the 1970's," by Sidney Davis, 17/9 (Sept.), 22
- Redcor Corp., "New Family of Data Acquisition Systems from Redcor Corp.," 17/11 (Nov.), 52
- "Patient Monitoring System from Redcor Corporation," 17/3 (March), 58
- Reddersen, John H., "Detecting Proofreading Errors Without a Computer," 17/12 (Dec.), 12
- Reel box, "Tiltsheet Reel Box to be Available on a Nationwide Basis," 17/4 (Apr.), 66
- Reference manual, "COBOL Reference Manual Available from Atlantic Software," 17/9 (Sept.), 65
- Reference service, "Legislative Reference Service," from Burnis Walker, 17/5 (May), 8
- "Refund of Overpayment of Social Security Tax by Multiple Employers," by Helen Solem, 17/3 (March), 16
- "Refund of Overpayment of Social Security Tax by Multiple Employers -- II," 17/4 (Apr.), 12
- Refuse problem, "Scientists, Using Computer, Seek Solution to Growing Refuse Problem," 17/11 (Nov.), 46
- "Regatta Winners Chosen by Computer," 17/11 (Nov.), 48
- Regional computer network, "Iowa College Plans \$1.2 Million Regional Computer Network," 17/9 (Sept.), 59
- "Regional Computing Center Established at Carnegie-Mellon Institute," 17/8 (Aug.), 56
- "Remote Batch Processing and Other Good New Ideas in the Computer Field," by Edmund C. Berkeley, 17/10 (Oct.), 6
- "Remote Control Equipment Used to Run Trains of Unusual Length," 17/1 (Jan.), 61
- "Remote-Controlled Manipulators Studied for Use in Building, Repairing, Maintaining Satellites in Space," 17/12 (Dec.), 61
- "Remote Job Entry (RJE) Programs," 17/12 (Dec.), 61
- "Remote Recording for IBM's Magnetic Tape Selectric Typewriter," 17/2 (Feb.), 49
- Remote terminals, "Education Through Remote Terminals -- The University of Georgia Computer Network," by James L. Rensselaer, Ph.D., 17/3 (March), 18
- Rensselaer Polytechnic Institute, "Scientists at Rensselaer Polytechnic Institute Link IBM 1130 With NYU's CDC 6600," 17/5 (May), 65
- "Rental System," 17/10 (Oct.), 63
- Repair program, "Computer 'Devooring' Toronto for Public Works Dept. Repair Program," 17/1 (Jan.), 51
- "Repeated Warning: That Something Must be Done to Curb Improper Uses of the Power of the Computer," 17/12 (Dec.), 63
- "Report from Australia" by Frederick Bland, 17/9 (Sept.), 52
- "Report from Great Britain" -- see C & A WORLDWIDE
- "Report from Great Britain," by Ted Schoeters, 17/4 (Apr.), 36; 17/5 (May), 39; 17/8 (Aug.), 48; 17/9 (Sept.), 30; 17/10 (Oct.), 49; 17/11 (Nov.), 38
- "Reprints for Authors," from Brooke W. Boering, 17/3 (March), 8
- RESEARCH FRONTIER: 17/3 (March), 59; 17/5 (May), 65; 17/7 (July), 55; 17/8 (Aug.), 63; 17/12 (Dec.), 61
- Research grants, "DPMA 1968 Research Grants Available," 17/1 (Jan.), 12
- Research work, "Toys Linked to a Computer Aid Research Work of Georgia State Psychologists," 17/12 (Dec.), 57
- Researchers, "Standard Computer Offering IC-6000 System to U.S. College and University Researchers," 17/5 (May), 56
- Resources sharing, "Computer Resources Sharing -- Some Comments and Predictions," by Norman Doelling, 17/10 (Oct.), 36
- Retail store management, "Credit and Inventory Control System for Retail Store Management," 17/11 (Nov.), 50
- Retrieval system, "S/D-500 Data Storage and Retrieval System," 17/8 (Aug.), 60
- "Software Resources to Market Generalized Retrieval System (GRS)," 17/1 (Jan.), 55
- "Return to Square" by Masao Komura and Kunio Yamamaka, Annual Computer Art Contest, 17/8 (Aug.), 17
- Rhode Island, "University of Rhode Island Establishes Department of Computer Science," 17/1 (Jan.), 54
- "Right Answers," from James L. Gildersleeve, 17/10 (Oct.), 4
- "Ring Motif," by Petar Mijolevic, Annual Computer Art Contest, 17/8 (Aug.), 20
- Robbins, Donald, "Op Art Computerized," Annual Computer Art Contest, 17/8 (Aug.), 26
- Rollins, C. M., "In Favor of Merging Two Societies That Supplement Each Other," 17/4 (Apr.), 10
- Ross, Joel E., "Data Processing Training for Managers: Objectives and Curriculum Content," 17/9 (Sept.), 16
- "Roster of College and University Computer Facilities," 17/6 (June), 138
- "Roster of Commercial Organizations offering Courses, Training, or Instruction in Computing, Programming or Systems," 17/6 (June), 73
- "Roster of Computer-Assisted Instruction Centers and Laboratories," 17/6 (June), 135
- "Roster of Computer Associations," 17/6 (June), 148
- "Roster of Computer Users' Groups," 17/6 (June), 131
- "Roster of Organizations in the Electronic Computing and Data Processing Industry," 17/6 (June), 8
- "Roster of Organizations Offering Commercial Time-Shared Computing Services," 17/6 (June), 70
- "Roster of Organizations Offering Computing and Data Processing Services," 17/6 (June), 65
- "Roster of Organizations Offering Consulting Services in the Computer Field," 17/6 (June), 80
- "Roster of Organizations Selling and/or Producing Software," 17/6 (June), 84
- "Roster of Organizations Specializing in Leasing or Financial Services in the Computer Field," 17/6 (June), 88
- "Roster of Programming Languages," 17/6 (June), 120
- Routines, "Compiling Routines," by Dr. Grace M. Hopper, 17/3 (March), 45
- Rubin, Murray, "Low Cost Graphics," 17/11 (Nov.), 18
- S**
- "SCAM Instrument Announces Licensing Agreement with IBM, Licensing of Westinghouse," 17/7 (July), 47
- "SCC 4700 Computer" (in Annual Pictorial Report), 17/12 (Dec.), 34
- "SCC 4700 -- New Entry in 16-Bit Computer Market," 17/11 (Nov.), 49
- SCC 2700, "Scientific Control Corp. Unveiling SCC 2700 at SJCC," 17/5 (May), 60
- "SCOPLT (Scope Plot)," 17/5 (May), 62
- "SCORE (Selection, Copy and Reporting)," 17/5 (May), 62
- "SCORE (Selection Copy and Reporting system)," 17/1 (Jan.), 57
- "S/D-500 Data Storage and Retrieval System," 17/8 (Aug.), 60
- SDS, 107
- "SDS," 58
- Ind, 51
- Sh, 51
- SDS, 9
- 945
- ced
- "SDS," 58
- Sys
- SIGDB
- tin
- int
- from
- 12
- "SIGM
- 20
- SIGPL
- Reg
- 13
- "SIM
- "SDS
- Com
- tion
- "SS/3
- abl
- "SSSP
- tic
- Sadow
- tow
- Sci
- soci
- 28
- "Safe
- Acc
- Acc
- Dec
- Salary
- Sur
- Summe
- gram
- put
- San Fi
- "Gro
- 9/6
- San
- put
- Down
- (Nov
- Sande
- Med
- 11
- Sande
- ers
- 2 (
- Sande
- Fre
- 2
- Sande
- "Ch
- San
- Comp
- 59
- "Sande
- 17/
- Sutei
- in
- tail
- 17/
- Savin
- 17/
- Scand
- tro
- Sig
- 62
- "Scho
- by
- 33
- Schoe
- 17/
- 3
- "B
- 17/
- "Am
- C
- 3
- "Bu
- 3
- "Co
- R
- k
- "Th
- Ho
- CO

# Annual Index

- SDS, "Three Year Lease Plan Introduced by SDS," 17/4 (Apr.), 58
- "SDS Announces New SDS 945 -- Industry's Lowest Priced Time Sharing System," 17/7 (July), 51
- SDS 945, "SDS Announces New SDS 945 -- Industry's Lowest Priced Time Sharing System," 17/7 (July), 51
- "SDS Rapid Access Data Storage System," 17/10 (Oct.), 61
- SIGBOP, "Association for Computing Machinery Forms Special Interest Group on Business Data Processing (SIGBOP)," from Paul D. Oyer, 17/9 (Sept.), 12
- "SIGMA FMS (Functional Mathematical Programming System)," 17/11 (Nov.), 53
- SIGPLAN, "ACM SIGPLAN To Set Up Registry for Software Names," by Arnold D. Sobol, 17/1 (Jan.), 13
- "SIM 1401," 17/8 (Aug.), 60
- SFC-8, a New General Purpose Computer from General Automation, Inc., 17/10 (Oct.), 60
- "SS/30 Small Store Memory Available from Varian Data Machines," 17/8 (Aug.), 58
- SSTPAC (a stand alone diagnostic monitor system)," 17/10 (Oct.), 63
- Sadowky, George, "Special Interest Committee for Social Science Computing of the Association for Computing Machinery is Proposed," 17/8 (Aug.), 28
- "Safety Council Computer Analyzes Accident Data and Identifies Accident Patterns," 17/12 (Dec.), 57
- Salary survey, "Computer Salary Survey," 17/10 (Oct.), 54
- Samet, Jean E., "Roster of Programming Languages -- 1968," 17/6 (June), 120
- San Francisco computer center, "Greyhound Establishes San Francisco Computer Center," 17/9 (Sept.), 59
- San Francisco, "Varian Data Computer System which will span Downtown San Francisco," 17/11 (Nov.), 65
- Sanders, "Management Systems for Medical Data from Sanders," 17/11 (Nov.), 50
- Sanders Associates, "NCR, Sanders Associates Announce Multi-Million-Dollar Agreement," 17/2 (Feb.), 44
- "Sanders Associates Division Signs 12-Year Agreement with French Company," 17/7 (July), 49
- Sanders data display systems, "Ghetto Area Residents to Use Sanders Data Display Systems in Computer Courses," 17/10 (Oct.), 59
- "Sanders Series 500 Memories," 17/7 (July), 53
- Satellites, "Remote-Controlled Manipulators Studied for Use in Building, Repairing, Maintaining Satellites in Space," 17/12 (Dec.), 61
- Savings & Loan, "No. Carolina Insurance Firm Offers On-Line Service for Savings & Loan Associations," 17/12 (Dec.), 50
- Scandinavian Trade Pact, "Control Data and Swedish Firm Sign Scandinavian Trade Pact," 17/8 (Aug.), 54
- "Schoeters from Great Britain," by Ted Schoeters, 17/3 (March), 33
- Schoeters, Ted: -- see "Computer Market Report"
- see "Report from Great Britain"
- see "World Report -- Great Britain"
- see "Worldwide -- Report from Great Britain"
- "American Dominance of World Computer Market," 17/7 (July), 32
- "Burroughs -- and Giant Machines," 17/5 (May), 44
- "Control Data Corporation Plays Increasingly Important Role in World Computer Market," 17/2 (Feb.), 20
- "The Future of Computer Communications -- and the Small Peripheral Equipment Manufacturers," 17/4 (Apr.), 40
- "Honeywell -- the other Computer Company," 17/9 (Sept.), 50
- "Report from Great Britain," 17/4 (Apr.), 36; 17/5 (May), 39; 17/7 (July), 37; 17/8 (Aug.), 48; 17/9 (Sept.), 30; 17/10 (Oct.), 49; 17/11 (Nov.), 38; 17/12 (Dec.), 55
- "Schoeters from Great Britain," 17/3 (March), 33
- "Standardization -- And Current Sales in the World Market," 17/3 (March), 38
- "World Report -- Great Britain," 17/1 (Jan.), 43; 17/2 (Feb.), 36
- Schofer, J. G., and the editor, "Contributions Welcome to 'Who's Who in the Computer Field,'" 17/2 (Feb.), 12
- Scholarships, "Control Data Awards \$13,000 in Scholarships for Study at CDI," 17/7 (July), 50
- "School to Teach Biology using I.C.T. Computer," 17/9 (Sept.), 58
- Schools: "CDC Computer Schools Receive Accreditation," 17/10 (Oct.), 59
- "Evaluating Computer Training," from A. H. Frankling, 17/5 (May), 8
- Schultz, Bob, "Output vs. Input," Annual Computer Art Contest, 17/8 (Aug.), 24
- Schwartz, Benjamin L., "Problem 601: Integer Part of a Number Given in Floating Point Form," 17/1 (Jan.), 50
- Science, "Social Issues and Science," from Richard Ochs, 17/10 (Oct.), 4
- "Scientific Control Corp. Unveiling SCC 2700 at SACC," 17/5 (May), 60
- "Scientific Data Systems Announces New Graphic Display Unit," 17/5 (May), 64
- "Scientific Data Systems Negotiating To Establish Peripheral Equipment Company in Israel," 17/5 (May), 56
- Scientific literature, "Share Research Corp. Offers Scientific Literature Service," 17/11 (Nov.), 56
- Scientists at Rensselaer Polytechnic Institute Link IBM 1130 With NBU's CDC 6600, 17/5 (May), 65
- "Scientists, Using Computer, Seek Solution to Growing Refuse Problem," 17/11 (Nov.), 46
- Scionics, "Link, Scionics Agree to Merge," 17/8 (Aug.), 55
- Scores, "Bowlers' Scores in Six States to be Compiled by Computer," 17/10 (Oct.), 66
- Sen, "Power of Six Computers Probes the Sea for Oil," 17/11 (Nov.), 46
- "A Sea Search," by Petar Milojevic, Annual Computer Art Contest, 17/8 (Aug.), 9
- Sealectro Corp., "Pluggable X-Y Matrix Board for Medical Research Applications," 17/11 (Nov.), 54
- Seattle, "Timeshare, Inc. Opens New Facility in Seattle," 17/10 (Oct.), 66
- Securities industry, "Western Union Service for Securities Industry," 17/11 (Nov.), 56
- "Security Life Computers Know 82,500 Policyowners by Name," 17/4 (Apr.), 57
- "Selecting a Vendor of Time-Shared Computer Services," by Alan G. Hummerstein, 17/10 (Oct.), 16
- SELECTRIC typewriter, "Remote Recording for IBM's Magnetic Tape SELECTRIC Typewriter," 17/2 (Feb.), 49
- Selectrics, "Breakthrough on Technical Symbols for IBM Selectrics," 17/5 (May), 64
- Self-repair, "A Digital Computer With Automatic Self-Repair and Majority Vote," by Dr. Avizienis, 17/5 (May), 13
- "Self-Seal" Package Used by IBM to Mail Cards for Computers," 17/4 (Apr.), 66
- Selling, "Buying ... and Selling ... Computer Time," by William P. Hagen, 17/9 (Sept.), 32
- Semiconductor devices, "Computer Simulation of Semiconductor Devices," 17/7 (July), 46
- "Senator Comments," from Sen. Edward V. Long, 17/5 (May), 9
- Sensing head, "Photoelectric Sensing Head Automates Waxing of Cars," 17/11 (Nov.), 57
- "Separate Pricing for Hardware and Software," by Richard C. Jones, 17/7 (July), 12
- Series 500, "Magnetic-Ledger Storage Capacity of Series 500 Increased by NCR," 17/5 (May), 61
- "Series TC500 Electronic Terminals" (in Annual Pictorial Report), 17/12 (Dec.), 44
- Series 200, "Honeywell Announces the Model 110 -- Smallest in Series 200 Family," 17/3 (March), 56
- Service bureaus, "Evaluating EDP Service Bureaus -- and Consulting Firms," by Dennis D. Sheaks, 17/12 (Dec.), 10
- "Service for our Readers," 17/7 (July), 8
- "Seventh Annual Conference of the Special Interest Group on Computer Personnel Research, of the Association for Computing Machinery, June 1969," Calls for Papers, 17/12 (Dec.), 13
- "\$70 Million Firm Seeks Service Bureau in Norwalk," from K. Wiswell and the Editor, 17/7 (July), 17
- "Share Research Corp. Offers Scientific Literature Service," 17/11 (Nov.), 56
- Shedden, "Computer Room Paper Shredded," 17/10 (Oct.), 65
- Sibert, Philip L., "Proof Books," 17/12 (Dec.), 14
- "Sigma 5 Time Sharing Software," 17/8 (Aug.), 60
- "Sign Lighting Controlled by Westinghouse Prodac 50," 17/3 (March), 49
- Signal Source, "New Datacoupler Links Any Digital Tape Recorder to Any Signal Source," 17/10 (Oct.), 60
- Sims, Jr., R. L., "Trends in Computer/Communication Systems," 17/5 (May), 22
- Simulation, "The Trend in Simulation," by John E. Creemans, 17/1 (Jan.), 44
- "Simulation," from R. A. Hurtubise, 17/3 (March), 8
- "Simulation Story," from Hubert M. Snider, 17/1 (Jan.), 8
- "Simultaneous," 1401 (Simulator), 17/9 (Sept.), 62
- "Singer-General Precision Inc. is New Name for General Precision Systems Inc." 17/12 (Dec.), 62
- 16-bit computer market, "SCC 4700 -- New Entry in 16-Bit Computer Market," 17/11 (Nov.), 49
- "Sixth Annual Computer Art Contest -- August, 1968," 17/5 (May), 17
- "The Sixth Annual Computer Art Contest of Computers and Automation," by Sherry Langdale, 17/8 (Aug.), 8
- "Sixth Annual Design Automation Workshop, June 1969," Calls for Papers, 17/12 (Dec.), 13
- Skolnick, Raymond R., -- see "New Patents"
- "Silenced Nuclear Reactor," by D. J. DiLeonardo, Annual Computer Art Contest, 17/8 (Aug.), 23
- "Small Capacity Core Memory System from Electronic Memories," 17/1 (Jan.), 56
- Small computer, "Data General Developing New Small Computer Product Line," 17/9 (Sept.), 57
- "Small Computer Helps Grade Giant Timber," 17/1 (Jan.), 53
- "Small, High-Density Drum Memory Announced by Vermont Research Corp.," 17/7 (July), 53
- Smith, B. R., "Multiple-Access, Time-Sharing, Operating System," 17/10 (Oct.), 24
- Smith, J. Stanford, "What Are the Challenges Facing the Computer Industry?" 17/10 (Oct.), 8
- Smith, Perry C., "The Teaching of Programming Technology," 17/3 (March), 30
- Smolen, Gerald J., "A New Concept in Time Sharing: Dedicated Systems Share One Computer," 17/10 (Oct.), 30
- "Smothered Software," from Data Discs Introduced by Data Disc, Inc., 17/1 (Jan.), 56
- Snider, Hubert M., "Simulation Story," 17/1 (Jan.), 8
- Sobel, Paul H., "The Sun Bather," Annual Computer Art Contest, 17/8 (Aug.), 22
- Sobol, Arnold D., "ACM SIGPLAN To Set Up Registry for Software Names," 17/1 (Jan.), 13
- "Social Implications Group," from William Bauriedel, 17/1 (Jan.), 8
- "Social Issues and Science," from Richard Ochs, 17/10 (Oct.), 4
- Social problems, "Automatic Data Processing Must Deal with Social Problems," Dr. H. R. J. Grosch, 17/7 (July), 15
- Social responsibility, "Computer Professionals Show Little Awareness of Social Responsibility," from Robert B. Godwin and from the Editor, 17/9 (Sept.), 11
- Social science computing, "Special Interest Committee for Social Science Computing of the Association for Computing Machinery is Proposed," by George Sadowky, 17/8 (Aug.), 28
- Social security tax, "Refund of Overpayment of Social Security Tax by Multiple Employers," by Helen Salem, 17/3 (March), 16
- "Refund of Overpayment of Social Security Tax by Multiple Employers -- II," 17/4 (Apr.), 12
- SOFTWARE: 17/12 (Dec.), 60
- Software, "The Art of Software -- 1st Annual Conference," 17/10 (Oct.), 66
- "Programs and Software Should be Patentable," by Richard C. Jones, 17/3 (March), 11
- "Roster of Organizations Selling and/or Producing Software," 17/6 (June), 84
- "Separate Pricing for Hardware and Software," by Richard C. Jones, 17/7 (July), 12
- "The System Generator: The Ultimate in Software," by Brooke W. Boering, 17/3 (March), 36
- Software companies, "Association of Independent Software Companies Formed," 17/7 (July), 14
- Software firms, "ADAPSO's New By-Laws Give Full Membership to Software Firms," 17/11 (Nov.), 58
- "Graphics Corporation -- New Software Firm," 17/8 (Aug.), 55
- Software names, "ACM SIGPLAN To Set Up Registry for Software Names," by Arnold D. Sobol, 17/1 (Jan.), 13
- Software packages, "System Interconnection Corp. Offers 'Software Packages, an Encyclopedic Guide,' 17/12 (Dec.), 62
- "Software Resources to Market Generalized Retrieval System (GRS)," 17/1 (Jan.), 55
- Software royalty plan, "Applied Logic Corporation Announces New Computer Software Royalty Plan," 17/7 (July), 40
- Software sorting system, "First Patent for Software Sorting System Granted to Applied Data Research," 17/8 (Aug.), 54
- Software system, "Payroll Software System," 17/10 (Oct.), 62
- Solem, Helen, "Refund of Overpayment of Social Security Tax by Multiple Employers," 17/3 (March), 16
- "Solid State Keyboard" (in Annual Pictorial Report), 17/12 (Dec.), 43
- Source EDP, "Is a Job Change Really Necessary?" 17/5 (May), 47
- "Southern Pacific Railroad Does Filling by Television Signals," 17/10 (Oct.), 57
- "Soviet Lags in Use of Business Computers, but Plans Network That Will Run Entire Economy," 17/1 (Jan.), 11
- "Space Selector Terminal by DI/An Controls, Inc.," 17/7 (July), 54
- "Special Interest Committee for Social Science Computing of the Association for Computing Machinery is Proposed," by George Sadowky, 17/8 (Aug.), 28
- "Specification Handbook for Supervisory Control Systems, from Dresser Industries," 17/11 (Nov.), 57
- Speech, "Machine-Generated Speech for Use With Computers, and the Problem of Fitting a Spoken Word into One Half Second," by W. D. Van Gieson, Jr. and W. D. Chapman, 17/11 (Nov.), 31
- Speeds, "Range of Speeds of Commercial Computers," 17/6 (June), 123
- Spencer, Donald D., "Game Playing with Computers," 17/8 (Aug.), 38
- Sperry Rand, "Data Documents Purchases Four Data Card Plants from Sperry Rand," 17/1 (Jan.), 53
- Sperry Rand's UNIVAC Div., "New UNIVAC 9400 System Added to UNIVAC 9000 Series by Sperry Rand's UNIVAC Div.," 17/3 (March), 55
- "Spies of Contribution," by Lloyd Summer, Annual Computer Art Contest, 17/8 (Aug.), 10
- Stadium scoreboards, "Oakland Athletics Will have First Computer-Controlled Stadium Scoreboards," 17/7 (July), 45
- "Standard Computer Corp. Announces New IC-4000," 17/1 (Jan.), 60
- "Standard Computer Offering IC-6000 System to U.S. College and University Researchers," 17/5 (May), 56
- STANDARD NEWS: 17/4 (Apr.), 67; 17/7 (July), 55
- "Standardization -- and Current Sales in the World Market," by Ted Schoeters, 17/3 (March), 30
- "Standardizing Input Languages: Call for Opinions," 17/4 (Apr.), 67
- "A Standards Committee for Private Data Processing Schools Has Been Formed by DPMA," by Education Dept., DPMA, 17/7 (July), 12
- "Star Kennedy," by Masao Komura and Haruki Tsuchiya, Annual Computer Art Contest, 17/8 (Aug.), 16
- "State University of New York Gets Data Science Interns," 17/9 (Sept.), 58
- Steel works, "The Impact of Digital Computers Upon Steel Works Operations," by W. E. Miller, 17/7 (July), 22
- Stephenson, Jr., J. C., "Embezzlement Primer," 17/4 (Apr.), 9
- Stevens, William B., "The Concept of the 'Data Analysis and Control Catalog' for Management Information Systems," 17/4 (Apr.), 40
- Stock exchange, "In the Background ... Government Procurement Policies, a Computerized Stock Exchange, Continued Sales, and Research for the 'Fifth' Generation," by Ted Schoeters, 17/11 (Nov.), 40
- Strand, Kerry, "The Fisherman," Annual Computer Art Contest, 17/8 (Aug.), 9
- Strand, Kerry, and Gary Craigmile, "Hummingbird," Annual Computer Art Contest, 17/8 (Aug.), 1, 8
- Strand, Kerry, Larry Jenkins, and Gary Craigmile, "Plexus," Annual Computer Art Contest, 17/8 (Aug.), 15
- "Stromberg Datagraphics SD 4360 Printer," 17/10 (Oct.), 64
- Students, "Project LOCAL Aids Students in Better Understanding of Math/Science Concepts," 17/10 (Oct.), 59
- Study computer program, "Short-Circuit Study Computer Program," 17/11 (Nov.), 53
- "Study in the U.S.," from D. L. Bowland, 17/2 (Feb.), 6
- "Subscription Management," from D. M. Lancaster, 17/5 (May), 8
- "Successful Maching Translation Through Semantic 'Understanding' by the Machine," by John R. Pierce, 17/9 (Sept.), 20
- Summer, Lloyd, "The Orbit Tree," Annual Computer Art Contest, 17/8 (Aug.), 23
- "Spies of Contribution," Annual Computer Art Contest, 17/8 (Aug.), 10
- "The Sun Bather," by Paul H. Sobel, Annual Computer Art Contest, 17/8 (Aug.), 22
- Supermarkets, "COSMOS (Computer Optimization and Simulation Modeling for Operating Supermarkets)," 17/12 (Dec.), 61
- Supervisory control systems, "Specification Handbook for

# Annual Index

- Supervisory Control Systems, from Dresser Industries, 17/11 (Nov.), 57
- Surveyors, "Alaskan Surveyors Use Computer to Explore for Oil," 17/8 (Aug.), 54
- Swedish firm, "Control Data and Swedish Firm Sign Scandinavian Trade Pact," 17/8 (Aug.), 54
- "Sven A. Larsen, Former Control Data Executive, Forms New Computer Firm," 17/10 (Oct.), 67
- Syllabus, "DPMF Syllabus for Certificate in Data Processing," 17/6 (June), 153
- "System 4031 Magnetic Tape Terminal" (in Annual Pictorial Report), 17/12 (Dec.), 45
- The "System Generator": The Ultimate in Software," by Brooke W. Boering, 17/3 (March), 36
- "System Interaction Corp. Offers 'Software Packages, an Encyclopedia,' 17/12 (Dec.), 62
- System/360, "IBM Model 25 To System/360," 17/2 (Feb.), 6
- "SYSTEM/360 Document Processing System," 17/4 (Apr.), 64
- System/360, "IBM Introduces Lowest-Cost System/360," 17/5 (May), 60
- System/360, Model 85, "IBM Announces Powerful System/360, Model 85," 17/11 (Nov.), 54
- "SYSTEM 010," 17/11 (Nov.), 54
- Systems Analysis, Computers, and the Future of Professional Services," by Dr. Robert M. Krueger, 17/7 (July), 34
- Systems analyst, "What is a 'Systems Analyst'?", by Carroll A. Hazen, 17/11 (Nov.), 13
- Systems Capital Corp., "GE and Systems Capital Corp. Agreement Makes Some GE Computer Lines Available for Long-Term Leasing," 17/2 (Feb.), 44
- "Systems and Procedures Association Changes Name, Adopts New Constitution and By-Laws," 17/12 (Dec.), 62
- T**
- "TEC Data-Screen Display Terminal Combines Fixed and Variable Message Display," 17/2 (Feb.), 50
- TRUMP, "Teller-Register Unit Monitoring Program (TRUMP)," 17/2 (Feb.), 47
- "TV, Radio Production, and Broadcasting Controlled by Computer in New Tokyo System," 17/11 (Nov.), 47
- Talman, Robbins & Company Engineers Computer Service Field," 17/9 (Sept.), 59
- Tally Corp., "Glossary of Terms for Tape and Transmission Formats, from Tally Corp.," 17/11 (Nov.), 57
- Tamara, Takuji, "Prospects in Municipal Information Systems: The Example of Los Angeles," 17/1 (Jan.), 15
- Tape, "Extreme Environment Tape Makes Computer Operations Possible in Extremes of Heat and Cold," 17/1 (Jan.), 60
- Tape cartridge, "Fast New Tape Reader Reads IBM MY/ST Tape Cartridge into IBM 360 Computer in 15 Seconds," 17/9 (Sept.), 64
- Tape cleaner, "GKI Model 999 Magnetic Tape Cleaner," 17/5 (May), 65
- Tape handlers, "Patter ADLOGIC Makes SOS Storage Capacity Increases Possible for All Disc Packs and 1,600 BPI Tape Handlers," 17/1 (Jan.), 57
- Tape reader, "Digitaltronics Model 2540, Remote Control Tape Reader," 17/2 (Feb.), 50
- "Fast New Tape Reader Feeds IBM MY/ST Tape Cartridge Into IBM 360 Computer in 15 Seconds," 17/9 (Sept.), 64
- "Low Speed Tape Reader Produced by Decitex," 17/9 (Sept.), 64
- Tape rewinder, "Indel Inc. Introduces New Computer Tape Rewinder," 17/9 (Sept.), 64
- Tape and transmission formats, "Glossary of Terms for and Transmission Formats, from Tally Corp.," 17/11 (Nov.), 57
- Tape transport: "Midwesters' Tape Transport Is Plug-to-Plug Replacement for IBM 2401 Tape Drive," 17/1 (Jan.), 59
- "New Field Tape Transport Weighs Less Than 50 Lbs.," 17/3 (March), 50
- Tax collectors, "Electronic Money Counters to Aid Tax Collectors of Nevada," 17/3 (March), 51
- Tax forms, "Computer Checkout Planned for 109 Million Tax Forms," 17/5 (May), 55
- Teaching, "Innovation in Teaching -- Why Industry Leads the Way," by Note A. Newkirk, 17/10 (Oct.), 45
- Teaching, automated, "Automated Teaching in Biology Saves Money at Fraser University," 17/1 (Jan.), 12
- Teaching machine, "Arkay Inter-Announces Desktop Teaching Machine," 17/2 (Feb.), 45
- "The Teaching of Programming Technology," by Perry C. Smith, 17/3 (March), 30
- "Telex IV Data Concentrator Cuts Line Costs for Data Communications Users," 17/5 (May), 64
- "Teletopators and Human Augmentation," by Edwin G. Johnson and William R. Corliss, 17/7 (July), 16
- "Telephone/Computer Coupler from Vernitron Corp. Gives Access Over Any Telephone," 17/8 (Aug.), 61
- "Teletype data transfer, 'Auto-fax' Unit Offers Economical Telephone Data Transfer," 17/3 (March), 58
- Teletype, "DATAPORT Teletype Terminal Travels Anywhere -- Sets up in Minutes," 17/8 (Aug.), 62
- Teletext Corporation, "Recognition Equipment has Acquired Teletext Corporation," 17/1 (Jan.), 54
- Television signals, "Southern Pacific Railroad Does Filing by Television Signals," 17/10 (Oct.), 57
- "Teller-Register Unit Monitoring Program (TRUMP)," 17/2 (Feb.), 45
- "The Ton-Mile Gap -- Part 1: The Problem," by Stephen F. Keating, 17/3 (March), 41
- "The Ton-Mile Gap -- Part 2: Solutions," by Stephen F. Keating, 17/4 (Apr.), 52
- "The Ton-Mile Gap -- Comments," from R. M. Merritt: 17/7 (July), 4; 17/8 (Aug.), 4
- Terminals, "New York State System Replicates Drivers' Licenses via Remote Terminals," 17/9 (Sept.), 55
- Testing instruments, "Blood Test Results are Faster, More Accurate, Using Computer Linked to Testing Instruments," 17/9 (Sept.), 57
- Test-scorer, "Electronic Test-Scorer Provides High-Speed Grading," 17/3 (March), 53
- "Texas Instruments Uses Computer-Centered Circuit Calibrator," 17/2 (Feb.), 42
- "There is a Crying Need for Improvement in the Technique of Education," by Dick H. Brandon, 17/1 (Jan.), 40
- Thermotests, "Essex Plant Computer Tests Thermostats Automatically," 17/2 (Feb.), 41
- "Third Generation Hardware -- First Generation Applications," by Robert F. Troch, 17/9 (Sept.), 28
- "Thirteen Track Flying Head for Disc Memories from Applied Magnetics," 17/8 (Aug.), 58
- "Thousand in One" Accounting Machine Introduced by NCR, 17/7 (July), 54
- "Three-D System," 17/10 (Oct.), 63
- "3M Company Offers New Computer Tape Accessories," 17/3 (March), 59
- 3M film, "Care and Handling of Computer Tapes is Subject of 3M Film," 17/7 (July), 50
- "Three More IBM System 360 Models are Now on 'Limited' New Production," 17/11 (Nov.), 50
- "Three Year Lease Plan Introduced by SOS," 17/1 (Jan.), 58
- "Tiltshelf Reel Box to be Available on a Nationwide Basis," 17/4 (Apr.), 66
- Timber, "Small Computer Helps Grade Giant Timber," 17/1 (Jan.), 53
- "Time-Share Costs Cut 90% with New HP 200SA System," 17/7 (July), 51
- Time-share DISCILE, "Data Products Announces Time/Share DISCILE," 17/5 (May), 61
- "Time-Share-8 System" (in Annual Pictorial Report), 17/12 (Dec.), 32
- Time-share users, "Data Interface Corporation Announces Plotter Terminal for Time-Share Users," 17/10 (Oct.), 64
- Time-shared computer services, "Selecting a Vendor of Time-Shared Computer Services," by Alan G. Hamersmith, 17/10 (Oct.), 16
- Time-shared computing services, "Roster of Organizations Offering Commercial Time-Shared Computing Services," 17/6 (June), 70
- Time sharing: "A New Concept in Time Sharing: Dedicated Systems Share One Computer," by Gerald J. Smolen, 17/10 (Oct.), 30
- "Communications Data Processing or Time-Sharing?", by Lester A. Probst, 17/8 (Aug.), 34
- "Communications Data Processing or Time-Sharing?", Comment," from Gordon R. Carlson, 17/11 (Nov.), 11
- "Markard Corp. Has Entered Computer Time-Sharing Field," 17/12 (Dec.), 60
- "Multi-Language, Time-Sharing Computer Systems from Digital Equipment Corp.," 17/11 (Nov.), 49
- "Multiple-Access, Time-Sharing Operating System," by B. R. Smith, 17/10 (Oct.), 24
- Time Sharing Associates, "Interface System for Use With IBM 1130 Computer from Time Sharing Associates," 17/2 (Feb.), 50
- "Time-Sharing Center Opened by New Firm in Detroit Area," 17/9 (Sept.), 60
- "Time-sharing centers, 'Digitel' 150 Series -- Data Multiplexing System for Computer Time-Sharing Centers," 17/9 (Sept.), 63
- Time-Sharing Computer System, "An Inter-City, Multi-Access, Time-Sharing Computer System," by Grant N. Boyd, 17/12 (Dec.), 21
- Time-sharing computer service, "Commercial Credit and RCA are Forming Company for Nationwide Time-Sharing Computer Service," 17/4 (Apr.), 59
- Time-sharing data center, "NCR Opens Time-Sharing Data Center in Montreal," 17/10 (Oct.), 66
- Time-sharing facility, "GE's Largest Commercial Time-Sharing Facility Opens in California," 17/12 (Dec.), 60
- "Time-sharing program, 'Paul Associates Announces New Time-Sharing Program,' 17/7 (July), 50
- Time-sharing service: "Denmark's First Time-Sharing Service," 17/11 (Nov.), 57
- "Italy's First Commercial Time-Sharing Service is Opened by Olivetti-GE," 17/7 (July), 50
- "ITT Division Inaugurates 3rd Generation Time-Sharing Service in New England," 17/7 (July), 50
- "Philco-Ford's Computer Services Network (CSN) Will Offer Time-Sharing Services," 17/9 (Sept.), 60
- TIME-SHARING SERVICES: 17/4 (Apr.), 61; 17/5 (May), 59; 17/7 (July), 50; 17/9 (Sept.), 60; 17/10 (Oct.), 66; 17/11 (Nov.), 57; 17/12 (Dec.), 60
- Time sharing software, "Sigma 5 Time Sharing Software," 17/8 (Aug.), 60
- Time sharing system, "SOS Announces New SDS 945 -- Industry's Lowest Price Time Sharing System," 17/7 (July), 51
- "Time Information," from D. B. Haller, 17/9 (Sept.), 4
- Tokyo system, "TV, Radio Production, and Broadcasting Controlled by Computer in New Tokyo System," 17/11 (Nov.), 47
- Tolson, S. G., "How to Spoil One's Mind -- As Well as One's Computer," 17/12 (Dec.), 8
- Toronto, "Computer 'Devouring' Toronto for Public Works Dept. Repair Program," 17/1 (Jan.), 51
- "Tower of Babel," by Leslie Mezei, and David Payne, Annual Computer Art Contest, 17/8 (Aug.), 12, 13
- Trainer, "Computer Training for Psychologists," 17/12 (Dec.), 57
- Trade Pact, "Control Data and Swedish Firm Sign Scandinavian Trade Pact," 17/8 (Aug.), 54
- "Tragedy of Seven," by Haruki Tsuchiya, Annual Computer Art Contest, 17/8 (Aug.), 19
- Train, "First Supersonic Airport Gets First Driverless, Trackless Passenger Train," 17/1 (Jan.), 61
- Trainer, "Feedback Ltd.'s Low-Cost Computer Trainer Covers Wide Range of Binary Operations," 17/10 (Oct.), 61
- Training: "Computer Training for the Disadvantaged," by Sharry Langdale, 17/11 (Nov.), 39
- "Computer Training in Private Schools," by Sven A. Larsen, 17/3 (March), 22
- "Data Processing Training for Managers: Objectives and Curriculum Content," by Joel E. Ross, 17/9 (Sept.), 16
- "Roster of Commercial Organizations Offering Courses, Training, or Instruction in Computing, Programming or System," 17/6 (June), 73
- Training facility, "Control Data Institute is Building a Campus-Type Computer Training Facility," 17/10 (Oct.), 59
- "Training Programmers," from L. F. Huber, 17/2 (Feb.), 6
- Training schools, "Computer Training Schools," from Van A. Hartman, and from John Cushing, 17/10 (Oct.), 4
- Trains, "Remote Control Equipment Used to Run Trains of Unusual Length," 17/1 (Jan.), 61
- Translation, "Machine Translation in Review," by Harry H. Josselson, 17/8 (Aug.), 44
- Translator, "New Translator Can Link Computers and Any Communications Network," 17/10 (Oct.), 64
- Transportation organization, "Granite Equipment Leasing Enters Computer Education Field; Also Acquires Transportation Organization," 17/7 (July), 48
- "Trend in Simulation," by John E. Cremons, 17/1 (Jan.), 44
- "Trends in Computer/Communication Systems," by R. L. Simms, Jr., 17/5 (May), 22
- Trenn, Robert W., "How to Spoil One's Mind -- As Well as One's Computer" -- Some Comments, 17/12 (Dec.), 8
- Trocchi, Robert F., "Third Generation Hardware -- First Generation Applications," 17/9 (Sept.), 28
- Trudgen, W. D., "1969 IEEE Power Industry Computer Applications Conference -- Call for Papers," 17/9 (Sept.), 12
- "Truthful Facts into Computers," from Leon Davidson, 17/1 (Jan.), 8
- Tsuchiya, Haruki: "March of Polygons," Annual Computer Art Contest, 17/8 (Aug.), 22
- "Monroe in the Net," Annual Computer Art Contest, 17/8 (Aug.), 16
- "Tragedy of Seven," Annual Computer Art Contest, 17/8 (Aug.), 19
- Tsuchiya, Haruki, Koji Fujino, and Kamoto Ohtake, "Deformation of Sharaku," Annual Computer Art Contest, 17/8 (Aug.), 25
- Tsuchiya, Haruki, and Masao Komura, "Jack Kennedy," Annual Computer Art Contest, 17/8 (Aug.), 16
- Tutorial film series, "Computer Tutorial Film Series by Computer Methods Corp.," 17/7 (July), 49
- 21st century, "Portland Engineers See into 21st Century with Help of IBM Computer," 17/8 (Aug.), 53
- "Two Full-Day Seminars have been Added to the Association for Computing Machinery (ACM) Professional Development Program Following FJCC," 17/11 (Nov.), 58
- "Two Interconnected Computers Analyze Vibration Sources," 17/11 (Nov.), 50
- "Two Mile Long Electron Beam Probes Atom with Aid of Computer," 17/2 (Feb.), 43
- Tyco's Electralab Division, "Flexible Multilayered Printed Circuit Developed by Tyco's Electralab Division," 17/8 (Aug.), 63
- Tymshare, Inc. Opens New Facility in Seattle," 17/10 (Oct.), 66
- Typesetter: "All-Electronic Typesetter Sets Type for Full Page or Microfilm Storage in Seconds," 17/4 (Apr.), 58
- "Fototronic-CRT Typesetter," 17/8 (Aug.), 57
- Typewriter: "Conversational Data Terminal from Dattel Corporation Doubles as Office Typewriter," 17/8 (Aug.), 61
- "Remote Recording for IBM's Magnetic Tape SELECTRIC Typewriter," 17/2 (Feb.), 49
- U**
- UCLA, "Informatics to Co-Sponsor March Symposium with UCLA," 17/3 (March), 59
- UNICRIM (Uniform Crime Reporting System), 17/11 (Nov.), 54
- "UNI-TRY," 17/8 (Aug.), 60
- UNIVAC, "Nationwide Network of Data Processing Facilities Planned by UNIVAC," 17/4 (Apr.), 59
- "UNIVAC Develops New 'File-Card' and Method of Processing Information Records," 17/5 (May), 66
- "UNIVAC Div. of Sperry Rand Announces UNIVAC 418 III," 17/7 (July), 52
- "UNIVAC 1557/1558 Graphic Display Subsystem" (in Annual Pictorial Report), 17/12 (Dec.), 47
- UNIVAC 418 III, "UNIVAC Div. of Sperry Rand Announces UNIVAC 418 III," 17/7 (July), 52
- UNIVAC 9000, "Direct Access Storage System for UNIVAC 9000 Series," 17/2 (Feb.), 46
- UNIVAC 9400 System, "New UNIVAC 9400 System Added to UNIVAC 9000 Series by Sperry Rand's UNIVAC Div.," 17/3 (March), 55
- "UNS Changes Name to URS Systems Corporation," 17/9 (Sept.), 58
- U.S. college and university, "Standard Computer Offering IC-6000 System to U.S. College and University to Researchers," 17/5 (May), 56
- "U.S. Forest Service is Using Computer to Aid Fire Research," 17/3 (March), 50
- Ultronic datasets, "NCR will Market Ultronic Datasets with Century Computers," 17/7 (July), 48
- "Unemployment Checks Prepared 'On-the-Spot' for Waiting Claimants in Massachusetts Program," 17/1 (Jan.), 53
- Uniform Crime Reporting System, "UNICRIM (Uniform Crime Reporting System)," 17/11 (Nov.), 54
- Union, "How To Live With a Union -- Peacefully and Profitably," by A. A. Imberman, 17/4 (Apr.), 32
- "UNITE I," 17/3 (March), 56
- "UNITE II and UNITE III," 17/4 (Apr.), 64
- United Data Centers, Inc., "Computer Services, Inc. Merges with United Data Centers, Inc.," 17/3 (March), 52
- United Data Processing Services, "Randolph Computer Corp. to Acquire United Data Processing Services," 17/3 (March), 51
- United States' computer dollars, "The General Services Administration Wants More for the United States' Computer Dollars," 17/2 (Feb.), 10
- United States Government, "Visual Information Display Systems, from U. S. Government," 17/11 (Nov.), 57
- "What the United States Government Knows About Its Citizens," 17/3 (March), 12
- University of Alabama, "Computer Monitoring System Used for Postoperative Care of Open-



# Annual Index

- Heart Surgery Cases at University of Alabama," 17/3 (March), 50
- University computer facilities, "Roster of College and University Computer Facilities," 17/6 (June), 138
- "University Computing Company Opens Major Computer Facility in Tulsa, Oklahoma," 17/5 (May), 59
- University of Georgia, "Education Through Remote Terminals -- The University of Georgia Computer Network," by James L. Carmon, Ph.D., 17/3 (March), 18
- "University of Rhode Island Establishes Department of Computer Science," 17/1 (Jan.), 54
- "University of Texas Advances Research in Computer-Assisted Instruction," 17/3 (March), 54
- "University of Utah Will Establish an Institute for Biomedical Engineering," 17/3 (March), 54
- "Upheaval Collection," by Masao Komura and Kunio Yamanaka, Annual Computer Art Contest, 17/8 (Aug.), 26
- Users' groups, "Roster of Computer Users' Groups," 17/6 (June), 131
- "Utah Computer Researchers Create 'Ideas Photographs'," by Dr. David C. Evans, 17/2 (Feb.), 11
- Utter, Robert F., "How to Spoil One's Mind -- As Well As One's Computer" -- Some Comments, 17/12 (Dec.), 8
- V**
- "Valuable Reference Tool," from Mrs. Ciel M. Carter, 17/9 (Sept.), 4
- "The Value of Swift Knowing of New Knowledge," by Frank J. Moran, 17/4 (Apr.), 53
- Van Gieson, W. D. Jr. and W. D. Chapman, "Machine-Generated Speech for Use with Computers, and the Problem of Fitting a Spoken Word into One Half Second," 17/11 (Nov.), 31
- Van Tassel, Don, "Computer Bill of Rights Proposed," 17/9 (Sept.), 11
- "Vancouver Suburb Uses Computer to Prepare for Flood Evacuation," 17/9 (Sept.), 55
- "Varian Associates and Granite Equipment Have Lease-Marketing Program," 17/9 (Sept.), 57
- "Varian Data Computer System which will Span Downtown San Francisco," 17/11 (Nov.), 65
- "Varian Data 520/1 Dual Processing Computer," 17/9 (Sept.), 60
- Varian Data Machines, "SS/30 Small Store Memory Available from Varian Data Machines," 17/8 (Aug.), 58
- "Vehicle Scheduling Program," 17/1 (Jan.), 57
- Vending machine, "Foreign-Money Vending Machine Offers Choice of Eight Different Currencies," 17/4 (Apr.), 67
- "Verification of Computer Directory Information," from I. J. Kusel and the Editor, 17/8 (Aug.), 30
- Vermont Research Corp., "Small, High-Density Drum Memory Announced by Vermont Research Corp.," 17/7 (July), 53
- Vernitron Corp., "Telephone/Computer Coupler from Vernitron Corp. Gives Access Over any Telephone," 17/8 (Aug.), 61
- "Vernitron Corp. to Acquire OEI Computer Systems Corp.," 17/3 (March), 52
- "Viator System 21" (in Annual Pictorial Report), 17/12 (Dec.), 42
- Vibration sources, "Two Interconnected Computers Analyze Vibration Sources," 17/11 (Nov.), 50
- Visual display units, "New Controls Speed Data to Visual Display Units," 17/9 (Sept.), 63
- "Visual Information Display Systems, from U. S. Government," 17/11 (Nov.), 57
- Volume 16, 1967, "Annual Index for Volume 16, 1967 of Computers and Automation," 17/1 (Jan.), 29
- W**
- "WCS 360 Evaluator," 17/3 (March), 57
- Walker, Burnis, "Legislative Reference Service," 17/5 (May), 8
- Walker, Dr. Donale E., "International Joint Conference on Artificial Intelligence -- Call for Papers," 17/10 (Oct.), 13
- Walker, Dr. Evan Harris, "Idealized Brush Strokes," Annual Computer Art Contest, 17/8 (Aug.), 14
- "Wang Desk-top Computer 'Learns' Programs," 17/10 (Oct.), 60
- "Wang Laboratories New Desktop Computer, Model 380," 17/5 (May), 59
- "War on Credit Card Fraud Assisted by Computer," 17/8 (Aug.), 53
- Ward Plant Uses Computer to Get Buses to School on Time," 17/10 (Oct.), 58
- Washington civil disorders, "Data Processor Connects Needs with Resources During Aftermath of Washington Civil Disorders," by The Jonker Corp., 17/7 (July), 15
- Weather, "Worldwide Weather -- Analysis by Men and Computers," 17/5 (May), 17
- "Weather-Conscious Computer Monitors Michigan Gas Supply," 17/10 (Oct.), 58
- Weather satellites, "Westinghouse Technician Tunes in Weather Satellites at Home," 17/8 (Aug.), 63
- Weatherford, Wendell, "Battles By Computer -- Final Results," 17/2 (Feb.), 7
- West Coast Trade Schools, "Computing and Software, Inc. Acquires West Coast Trade Schools, Inc. of Los Angeles," 17/1 (Jan.), 54
- Western Electric, "Data Sets from Lynch are Fully 'Compatible' With Western Electric Counterparts," 17/11 (Nov.), 54
- "Western Union Service for Securities Industry," 17/11 (Nov.), 56
- Westinghouse, "SCAM Instrument Announces Licensing Agreement with IBM, Licensing of Westinghouse," 17/7 (July), 47
- "Westinghouse to Offer Computer Services to Outside Users," 17/11 (Nov.), 57
- Westinghouse Prodac 50, "Sign Lighting Controlled by Westinghouse Prodac 50," 17/3 (March), 49
- "Westinghouse Technician Tunes in Weather Satellites at Home," 17/8 (Aug.), 63
- "What are the Challenges Facing the Computer Industry?," by J. Stanford Smith, 17/10 (Oct.), 8
- "What the United States Government Knows About Its Citizens," by Sen. Edward V. Long, 17/3 (March), 12
- "What is a 'Systems Analyst'?" by Carroll A. Hazen, 17/11 (Nov.), 13
- "Whirlpool," by (Mrs.) Leigh Hendricks, Annual Computer Art Contest, 17/8 (Aug.), 18
- "Who Will Man the New Digital Computers?," by John W. Carr, III, 17/9 (Sept.), 37
- "Who's Who," from Louise La Londe, 17/2 (Feb.), 7
- Who's Who in the Computer Field: "Contributions Welcome to 'Who's Who in the Computer Field,'" 17/8 (Aug.), 32
- "Contributions Welcome to 'Who's Who in the Computer Field,'" from J. G. Shofer and the Editor, 17/2 (Feb.), 12
- "Preview of 'Who's Who in the Computer Field,' Fifth Edition," 17/4 (Apr.), 14
- "Who's Who in the Computer Field -- and Who are the Distinguished Computer People?," by Edmund C. Berkeley, 17/7 (July), 6
- Williams, Thomas G., and Morton I. Bernstein, "An Interactive Programming System for the Casual User," 17/2 (Feb.), 26
- "Winning Entries in the IFIP Congress Computer-Composed Music Competition," 17/7 (July), 17
- Wisconsin Telephone Company, "Computer's Electronic Voice Serves Customers of the Wisconsin Telephone Company," 17/1 (Jan.), 52
- Wiswell, K., "\$70 Million Firm Seeks Service Bureau in Northeast," 17/7 (July), 17
- Wolf Research and Development Corporation, "EGGG Enters Agreement to Acquire Wolf Research and Development Corporation," 17/3 (March), 52
- WORLD COMPUTER CENSUS: 17/6 (June), 132
- World computer market, "American Dominance of World Computer Market," by Ted Schoeters, 17/7 (July), 32
- World law, "Computers -- and World Law," 17/3 (March), 15
- World market, "Standardization -- and Current Sales in the World Market," by Ted Schoeters, 17/3 (March), 38
- WORLD REPORT -- AUSTRALIA by W. R. Cooper: 17/2 (Feb.), 37
- WORLD REPORT -- GREAT BRITAIN by Ted Schoeters: 17/1 (Jan.), 43; 17/2 (Feb.), 36
- Worldwide: -- see "CGA Worldwide" -- see "Report from Great Britain"
- WORLDWIDE -- REPORT FROM GREAT BRITAIN by Ted Schoeters, 17/7 (July), 37
- "Worldwide Weather -- Analysis by Men and Computers," 17/5 (May), 17
- "Worley & Ringe, Inc. Provide Physician-Oriented Computer Applications," 17/8 (Aug.), 55
- Wright Line, "Data-Bank Fire Vault by Wright Line Listed by U.L. for Storage of EDP Records," 17/5 (May), 65
- Wyle Laboratories, "Japan's Foreign Investment Council Approves License Agreement Between Nippon Calculating Machine Co. and Wyle Laboratories," 17/1 (Jan.), 54
- Y**
- X-Y plotter, "First Hybrid-Digital X-Y Plotter Introduced by Electronic Associates," 17/7 (July), 54
- X-Y recorder, "New X-Y Recorder by Honeywell," 17/10 (Oct.), 64
- "Xerox Phone Device Works After Hours," 17/10 (Oct.), 63
- Yamanaka, Kunio, "Computer Art Contest," 17/3 (March), 8
- Yamanaka, Kunio, and Masao Komura, "Return to Square," Annual Computer Art Contest, 17/8 (Aug.), 17
- "Upheaval Collection," Annual Computer Art Contest, 17/8 (Aug.), 26
- Yearsley, Robert, "Converting Staff to a Computer: Two Views," 17/10 (Oct.), 10
- "Yield at Mine Analyzed On-Line by Computer System," 17/9 (Sept.), 55
- Young people, "Hands on Contact With a Computer for Young People -- Announcement," 17/4 (Apr.), 14
- Zenner, Greg, "Computers Open New Path to Rapid Promotions in Business," 17/2 (Feb.), 35
- Ziegler, James R., "Program Generators: How Good are They?," 17/7 (July), 18
- Zulla, Salvatore M., "Better Insight," 17/1 (Jan.), 8